Clinical Lecture
ON
ALCOHOLIC ASTHENIA.

Delivered at the Northern Hospital, Liverpool,

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(*Concluded from p. 57.*)

The mental condition.—Dr. B. W. Richardson vividly depicts the mental phenomena in alcoholic asthenia as follows:—"As the circulation varies, the mind varies; as the gaslight flickers and changes when the pressure is variable at the main, at one minute flaring away with noise, heat, and bluster, in a little failing to a mere point, so that there is fear that it may go out altogether, and in another period burning with fair steadiness but no persistent certainty,—so that light of life, the mind of the person who is suffering from alcoholic asthenia of the central organ of the circulation, blusters, ebbs, flickers, and varies as the pressure of the blood varies and determines the effects. At one moment the mind is vehement and inconclusive, at another it is so feeble that it can determine on nothing definitely. Again, for a season, it assumes some degree of order, but at its best it is uncertain, ever hoping against hope and striving against strife, towards despair or imbecile fatuity."[1]

There are frequently well-marked delusions, but the insanity is usually of a pleasant type. The patient is well pleased with himself, and finds no fault with his surroundings. He is often mentally engaged at his usual avocation, and is rather noisy and demonstrative in the supposed execution of his work. He may answer questions intelligently and give a fairly accurate account of his early history, but late events are blank, and he may have no conception of his present whereabouts. The insanity in these cases stands much in the same relation to delirium tremens that monomania bears to acute mania. All the senses are blunted, there are no illusions, the impressions of external objects do not conjure up things terrible, consequently there is no fear or dread. He lies oblivious to the environment, and the delusions are engendered within, the result of his weak and irritable brain. He is often very restless, but the mind is weak, vacillating, and easily restrained. You have only got to tell him firmly to get into bed or keep quiet, and straightway you are obeyed; but once your attention is withdrawn, the delusions and restlessness recur. Our patient was too prostrate for his mental condition to give rise to much trouble; he was unable to get out of bed, but he made free use of his voice. You recollect the man Taylor, who was recently in Ward 17, and whose case closely resembled that of this patient. He had the same mental confusion, cardiac asthenia, anasarca, and involuntary evacuation of bowels and bladder. He was not, however, so prostrate, and was constantly getting out of bed and roaming about the ward. He generally answered questions intelligently, but had no conception as to where he was. When left alone his mind was often engaged driving his team, and he was particularly boisterous at night. We cured his dropsy, but his mental condition did not improve, and, when I was away on a short holiday he became so troublesome that he was removed to the Liverpool Workhouse Hospital. I have since seen him there in the asylum ward. He did not know me, and although he correctly remembered being in this hospital some years ago with an injured hand, he had no recollection of his late residence here.

A distinctive feature of these cases is the turning of night into day. They may be very drowsy during the daytime, but once the house becomes quiet and everyone else is thinking of retiring to rest they wake up, and there is no rest either for them or the attendants until the morning. In private practice they are even more troublesome than in hospital, as the moral control of friends and subordinates is not so effective as that of a nurse. In the early stages of this condition, while there is still a craving for alcohol, they will have it if it can be got. I have seen many such cases. Some years ago I had a good deal to do with a very able man, physically and mentally, but who unfortunately was addicted to drink. Some of his drinking bouts would last for several weeks, others for as many months. He often slept all day, except when he woke up to get a drink; but so soon as the night came on he roused up, moved about in an objectless manner, roamed from room to room, would neither go to bed himself nor allow anyone else to go. He would keep his family playing the piano, reading, or in some other ways amusing his idle fancies. It would seem as if alcoholics were among those spirits

"Doom'd for a certain term to walk the night."

Regarding hypnotics, I have tried them all, and find none quite satisfactory. Perhaps henbane in large doses is about the best. If you can induce your patient to take plenty of liquid nourishment you will find it better than any soporific.

The incontinence of urine and the involuntary evacuation of fæces were evidence of the great nervous prostration; the reflex arc of the spinal cord was intact, but the control of the higher nerve centres in abeyance. Notwithstanding these long-continued discharges, and the extremely emaciated condition of his body, there was never even an abrasion of his skin; these facts speak more highly of the care and attention of our nurses than any words which I can express.

Temperature—The temperature is usually very variable. Dr. Richardson has seen it in one case fluctuate between 90° and 102° F. He says: "Immediately after the reception of the full dose of the stimulant the temperature runs into fever heat. I have seen it up to 104° F. As the effect of the alcohol declines the temperature rapidly falls, and one of the worst signs of degradation from alcohol is the coldness of the body under deprivation."[2] This patient when under our care was deprived of his alcohol. The temperature usually did not fluctuate more than a degree; but we took care to keep up the external warmth, and supply him with plenty of body fuel. The massage generally raised the temperature half a degree, and sometimes a degree or more. This is in accord with common experience.

Circulatory system.—The action of alcohol on the heart and bloodvessels is primarily through the nervous system. It has a paretic effect on the vaso-motor nerves; thus the bloodvessels become greatly dilated, and the peripheral resistance to the action of the heart is lessened; this increases the frequency but not the force of the cardiac contraction. The same paralytic effect occurs to the coronary vessels, and so the cardiac muscle for a time receives a larger and more frequent supply of blood, which stimulates the heart to renewed exertion. Alcohol blunts sensation and lessens reflex irritability; so when the vessels are paralysed the circulation is placed more under purely physical conditions, without any regulating influence from the nervous system. With the lessened peripheral resistance, and consequently lessened demand for forcible cardiac contraction, the blood pressure falls. With the diminished pressure there is less energy stored in the elastic walls of the aorta, the blood is not so forcibly driven through the coronary arteries, and thus the heart is not supplied with a sufficient amount of fuel to enable it to maintain the force of its contraction. You must not mistake the large artery and bounding pulse which occur in these cases for a strong pulse; because when the arteries are dilated and comparatively empty between the beats, each ventricular systole causes a large wave and great elevation of the lever of the sphygmograph. There is a sudden shock, which gives the pulse an appearance of strength which it does not possess. Each wave is quick, short, and large, but very easily compressed. While the heart remains vigorous the velocity of the blood is increased during the cardiac systole, but rapidly diminishes during diastole, as with the loss of vascular tone the energy is not stored up in the elastic walls of the vessels. It is chiefly during the diastole of the heart and of the vessels that they are nourished, and it requires a certain amount of pressure to drive the blood through the coronary arteries and the vasa vasorum. When this diminished blood pressure is long continued, the muscular coat of the arteries, the walls of the heart, and the muscles generally, are not properly nourished, and we get fatty degeneration as a result. This would be the effect of large and long-continued doses of alcohol, but it is not usually taken under simple conditions. The individual goes about his employment, so that the paralysing effect on the nervous system is not allowed to have free play, and the

[1] The Asclepiad, vol. iii., p. 210.

[2] Ibid., p. 209.

diminished reflex irritability is in many ways counteracted. Alcohol displays some of its worst effects in tipplers of sedentary habits. Alcohol may be given to blunt nervous sensation, to lessen reflex irritability, to lower vascular tone and diminish the work of the heart, but we have no evidence whatever that it ever acts as a tonic to either nerve or muscle. In this patient the power of the heart was reduced to the lowest possible state consistent with life. The sounds were barely appreciable to the ear, and there can be no doubt that the cardiac muscle was not only weak, but also affected with fatty degeneration.

When the liver and kidneys are diseased, as is frequently the case with alcoholic drinkers, you get secondary effects on the circulation from imperfectly elaborated products, and the retention of effete materials in the blood. In this case these organs were healthy, but before commencing the massage I had to satisfy myself as to the functional activity of the kidneys. In courses of massage, with high feeding, I have often seen as much as 1000 grains of urea excreted in twenty-four hours, and even for the elimination of half that amount there requires to be no renal inadequacy. If you reckon the normal excretion of urea at 1-2000th of the body weight, then this man, when even at the lowest ebb, should have eliminated about 300 grains, whereas there was rarely 1 per cent. of urea, and so far as we could roughly estimate, which was rather difficult, owing to the incontinence, the total quantity did not exceed 150 grains. However, taking into account his low state of vitality, that he was lying in bed without any great waste of tissue, and that he was not then on a highly nitrogenised diet, I came to the conclusion that his kidneys were structurally healthy.

Dropsy.—This case belonged to the first of the two great classes into which I have divided all dropsies[3]—viz., where there is an abnormal transudation from the capillaries without apparent obstruction in the absorbents. We have now to consider the mechanism of its production, because in every individual case of dropsy our efforts at its removal should depend on a clear conception of its mode of origin.

In health the bloodvessels are never fully distended and the quantity of fluid which they contain is constantly varying. The veins themselves are capable of holding all, or more than all, the blood in the body. A considerable over-repletion of the bloodvessels may occur without any abnormal transudation, so long as they retain their vaso-motor tone and the velocity is not materially diminished. Not only do the tone and elasticity of the bloodvessels regulate the amount of fluid which they contain, but the elasticity of the tissues is also concerned in regulating or limiting the amount of fluid which transudes into their intercellular spaces. In such cases as this there is loss of vascular tone, and as tipplers usually consume large quantities of liquid the vessels are kept constantly over-repleted; but so long as the heart keeps up a medium velocity there may be no excessive transudation, or at least not more than can be absorbed by the veins and lymphatics. The tissues are pretty well soaked in fluid, which gives a plumpness and roundness to the body, but there is no pitting on pressure, and the condition does not receive the name of dropsy. Once the heart begins to fail, the velocity of the blood is diminished, the static condition correspondingly increased, and consequently excessive transudation takes place through the walls of the capillaries.

The energy of the blood, of course, depends on the force of the cardiac contraction. This force varies very materially in different individuals. In the same individual in a state of health the range of variation is perhaps slight, but in disease it may be very considerable. Owing to the regulative mechanism of the nervous system the force varies according to the amount of work the heart has to perform. This intermittent force is expended in driving on the blood, and is partly stored up in the elastic walls of the aorta during ventricular systole, and given out during diastole. Thus in high tension there is a demand for a forcible cardiac contraction; the energy imparted to the blood is great, and largely stored up in the elastic arterial walls; the *head* of the liquid is raised, and so although the relative velocity of the blood in the arteries during systole is diminished, its mean velocity is increased. The *vis viva* or energy imparted by the heart may be represented by the formula:—

$$\frac{MV^2}{2} = \frac{1}{2}\frac{W}{G}2Gh = Wh.$$

Here h represents the height of the blood column maintained by the force of the cardiac contraction; and as the velocity depends on the square root of the height of this column (velocity, $V=\sqrt{2Gh}$), it follows that the higher the tension the more rapid will be the flow of blood through the arterioles and capillaries, where the current becomes uniform. In very low tension there is little energy stored up; the velocity intermits. If the heart be vigorous, it is great during systole, but rapidly falls off during diastole, so that the mean velocity is diminished. In very low tension the resistance may be so diminished that these intermittent pulsations are carried right through the capillaries into the veins. Prof. Haughton has shown that capillary resistance is directly proportional to the length of the tubes, and inversely proportional to the cross sections. Therefore in low tension, so long as the heart's action is fairly vigorous, the blood (which moves in the direction of least resistance) flows freely through the capillaries, and there is no tendency to excessive transudation through their walls. This holds good so long as the mass of blood in circulation is not increased, but I have shown that these tipplers consume large quantities of fluids, and so the enlarged vascular area is repleted. This increases the sectional area of the capillaries, and as the velocity is inversely as the sectional area the movement of the blood is diminished and its static condition increased. Thus there is excessive transudation, and as the heart becomes more feeble the blood tends to accumulate in the venous radicles, and so there is also diminished absorption. When the dropsy is due to the retention of fluid in the system from diminished elimination, without failure in the heart's action, such as occurs in acute Bright's disease, then the transudation takes place into the loose cellular tissue where the capillaries are least supported, such as that of the lower eyelids or of the scrotum, but in this case the kidneys did not act because the very feeble heart sent very little blood through them, there was great retention of fluid in the system, the velocity of the blood was at a very low ebb, and the transudation took place at the most distal points, where the velocity was least and static condition greatest. In obedience to the law of gravity it was found in large œdematous folds on the patient's back and sides.

The indications for treating a case like this are, to improve the vascular tone, strengthen the cardiac contraction, and so increase the velocity of the blood. Hence I gave him caffeine, to which I soon added liquor strychnine. Now, in these cases a feeble heart is handicapped with a large amount of blood to move, and you should not merely try to strengthen the central organ, but also afford it relief. What advantage is it, therefore, if for every half-pint of urine that is excreted you put a pint of liquid in the stomach. If you want to quickly empty a reservoir, you should not only increase the outlet, but cut off the rivulets which keep it full. For this reason I diminish the amount of fluid ingested in such cases. It is said that a man can only live for about three days without liquids; but when you get a man like a camel, who carries a large supply, he can go without replenishing for a much longer time. I have certainly in many cases cut off all supply for more than a week, and that stored up in the interstices of the tissues has been drawn upon with the greatest advantage. I have entered fully into this subject in my article on the "Pathology and Treatment of Dropsy,"[4] to which I would refer you for further information.

Massage.—I have never attempted massage in any previous case where there was such a mere flicker of life. When I first proposed it and instructed Dr. Thompson to see about the nurse, the following day the patient was worse, and on my arrival I was told that he seemed to be dying. Under the circumstances it certainly did seem a useless experiment to try any active treatment. In deference to this strongly expressed opinion I postponed the consideration of massage for a time.

The muscles are the great furnaces of the body; in them oxygenation largely takes place, and the effete materials are burned off. It has been truly said that a man digests with his muscles as well as with his stomach, so when we have active muscular exercise the appetite is improved, a greater amount of nutriment is taken in, and tissue change goes on more rapidly. Life implies change; without tissue metamorphoses there could be no life. Some people manage to exist with a small income, and equally small expenditure; but their life is that of the sloth; it is a mere existence, a sufficient amount of energy to hold the molecules of their composition together, without anything worthy of the name of life. When you want to restore lost energy you must

[3] Liverpool Medico-Chirurgical Journal, July, 1886.

[4] Ibid.

increase the force; but in order to do so there is no use in supplying the fuel without the fire to light it. There is no use in putting nutrients in the patient's stomach unless he is able to assimilate them. If the muscles are run down and there is no spare nerve energy to make them work, then you must supply the place of the nerve current by massage and electricity. Massage is a most powerful agent for effecting nutritional changes, and with the increased combustion and greater supply of food, not merely the muscles but also the heart and every organ of the body are nourished, and nerve energy is stored up for future use. I have seen a pulse, which would not even move the weight of the lever of the sphygmograph, give an excellent tracing with a pressure of five ounces after eight weeks' massage. You have seen what can be accomplished, and as suitable cases occur you shall have opportunities of witnessing, I hope, equally good results.

CHOREA IN A CHILD UNDER THREE.

A SMALL CONTRIBUTION TO THE PATHOLOGY OF THAT AFFECTION.

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IN May last I published the particulars of a child of three years and six months affected with chorea in intimate connexion with heart disease and with acute rheumatism.[1] Just a year later a still younger child was admitted into the same ward with the same disorder. She also had valve disease, and, although not herself rheumatic, was of rheumatic parentage. The conclusions drawn from the first case are largely corroborated by this second; and, inasmuch as both were remarkable for the tender age of the patients, it may be worth while to place them together.

The child now in question is a girl, aged on admission two years and eleven months. She was born at eight months, after a difficult labour, but is plump and well nourished, with fair hair and ruddy complexion. She has had measles and whooping-cough, but no known rheumatism or other disease. The father, aged forty-three, is "rheumatic"; the mother, aged thirty-seven, had an attack of acute rheumatism a year after the child's birth. There is no insanity or other neurosis in the family. Of thirteen children, however, six had died, all but one in infancy.

The history was this. Three months ago the child fell on the back of the head, and was unconscious for half an hour, she then had two fits in quick succession, and was sick. After this accident the child was very "nervous," starting and screaming in sleep. The measles attack (above mentioned) followed the fall. Six days before admission she again had a fit, and was very sick. After this she "seemed very wild, tossing her arms and legs about." On the following day the mother (who was the narrator) noticed a red and tender swelling on the buttock. This proved to be an abscess, and was lanced the day preceding admission. Meanwhile the child has been getting weak and uncertain on her legs, and is now unable to walk or to feed herself. The patient is slightly rickety, and the ribs are beaded; the anterior fontanelle is closed, and the skull well shaped.

Such is the account abstracted from notes kindly supplied by Dr. Penrose, medical registrar. It has to be added that on admission the patient was violently emotional, screaming and throwing herself about. In the intervals of such paroxysms her movements are observed to be choreiform, and pretty equally distributed over the face, hands, and feet, appearing quite characteristic when the child is stripped. Moreover, the right arm when lifted falls on being released, and the left is alone used in reaching and in raising the body, while, when in sitting position the patient leans over to the right side. There is obvious incoördination of the left arm when the child attempts to direct it. In addition to these signs, there is at the heart's apex—that is, in the fourth space half an inch within the left nipple line—a loud, and, on admission, musical, apex systolic murmur, which is conducted to the axilla, and heard distinctly behind.

Of the child's progress it need only be said that, although slow, it was always in the direction of recovery. The emotional attacks gradually subsided, and the general health and temper improved. Yet still as I write, after two months' residence, the choreic movement and paresis are apparent, and there is no change in the heart murmur, which has all the characteristics of mitral reflux. Yet, apart from these latter signs, the child is in all respects healthy, and there is no reason to suppose that the heart defect is congenital. It seems probable that in due time she will be discharged well, except for the cardiac symptoms.

The foregoing account will, I hope, suffice to satisfy the reader that the patient in question really *has* chorea. At so early an age it is not easy to separate the affection so named from the restless movements of infancy. We find chorea attributed even to infants, yet every asserted example of the kind needs the guarantee of a full description. Now in our present child we have paresis and incoördination as well as over-movement, to say nothing of the heart murmur. And when she was stripped naked and leisurely observed, there was twitching of the face and jerking of the fingers and feet, after a fashion such as corresponds with no other affection as yet provided with a name. Yet it must be remembered that we owed this latter part of the evidence in favour of chorea to the fact that the patient, although little more than a baby, had in fact passed infancy. The incoördination was displayed when the child made an intelligent effort to reach or to handle; the movements of the face were a change of expression, those of the hands concerned fingers that had been used with a purpose. The structural basis of chorea, whatever it be, may or may not apply to infancy. At any rate, it is impossible for a mere infant to exhibit in fulness the symptoms we call chorea; it has not the material.

Hence the diagnosis of the affection, though elsewhere simple enough, may at this early time present some difficulty. Young children are sometimes brought to us with general restlessness supposed to be chorea, but which on inquiry is found to be but a prolongation beyond its proper period of the restless movements of infancy. Some authors, indeed, would apply the term "congenital chorea" to such cases, provided there is no obvious feebleness of mind. Such a nomenclature seems unfortunate from every point of view, and especially for confusing a hopeless condition with one which is almost certain of recovery. And with care and watching the essential differences between the two may commonly be shown both in the limbs and in the face. That true choreic movement which denotes a temporary disorder of certain muscles which but lately have been intelligently used is never quite the same as the restlessness of limbs that have never been controlled or ordered. The most generalised chorea affects the body unequally. In the upper limbs, and especially in the hands, it exhibits great variety of movement in strict correspondence with the acquired movements which it has for a time superseded and replaced. With whatever degree of restlessness, the attitude and the expression of intelligence will from time to time peep out. But the congenital restlessness affects the body uniformly and monotonously; and there is nothing behind it. It is true, of course, that the facial distortion of chorea often conveys an erroneous impression as to the patient's intelligence, especially when combined with speech difficulty; but the expressionless look is less fixed and indelible than in the other, and when the attention is arrested the choreic child will call up an expression which is beyond the reach of the congenitally deficient. Differences like these become more obvious with growth, and in very young children they are no doubt discerned with difficulty, a difficulty which is not lessened by the partiality and unconscious prevarication of mothers.

On looking over the record of my ward at Great Ormond-street for ten years, I find but six examples of chorea under five, all of them girls. It is needless to repeat here what has been said in the paper already referred to with reference to the rarity of chorea at this early age, and to the fact that all the youngest patients are girls, and that almost all are intimately connected with rheumatism. And now, by way of corroboration, comes our present child. She is without unequivocal rheumatism truly, but she is of rheumatic parents and has a cardiac murmur, of which rheumatism is by far the most probable explanation. On the whole, the conclusion is not to to be resisted, that chorea and rheumatism at this early period of life, when the two affections are alike rare, are closely connected.

But, apart from the actual fact of frequent association in the same subject, there is a sympathy between the two

[1] Rheumatic Element in the Chorea of Young Children. (Archives of Pediatrics, May, 1887.)

diseases in early childhood in their common preference for girls rather than boys. And observe of rheumatism, as of chorea, that the younger the subject the more feebly is the disease expressed and the more need is there to appeal to the heart for an explanation of equivocal symptoms. "It is a common experience," says Dr. Eustace Smith, "to detect a murmur at the mitral orifice in a young child, and to discover on inquiry that the patient had some weeks or months previously been feverish, with a little stiffness and tenderness of one or more joints."[2] It is also an experience (I do not say a common one, but it has been my own repeatedly) to detect a mitral murmur in a little child brought to hospital owing to its tumbling about, yet only developing limb chorea after some days' residence.

There is, as I believe, a further point of resemblance in the mode of origin of the two affections. In our present example, the immediate cause of the child's disorder was undoubtedly nervous, and perhaps partly mental. In the case previously reported, when chorea and rheumatism were present together, there was no clue to the origin of either. No doubt chill or weather exposure is the commonest cause of rheumatism, as is fright, or mental disturbance of some sort, of chorea; but at the beginning of life there is a joint pain that is not from exposure, and a chorea that is not from fright, and endocarditis is common to both. "In young children and infants," says the author just quoted, "a very slight impression of cold may set up rheumatism." May we not go further, and say that young children get joint pains not to be distinguished from rheumatism when there has been no exposure whatever?

It need hardly be added that this near connexion of rheumatism with chorea refers only to early childhood, yet it seems, nevertheless, to indicate a real pathological kindred, of which we get glimpses from time to time in after life. But it must not be forgotten that in the majority of cases of chorea in this country occurring at its common age—say between six and twelve—rheumatism takes no part whatever. The very able report of the Collective Investigation Committee upon Chorea, drawn up by Dr. Stephen Mackenzie, finds 26 per cent. connected—nearly or remotely as regards time—with antecedent rheumatism; while Dr. Osler, quoting his own large experience in Philadelphia, concludes that about 15 per cent. of the cases show antecedent rheumatism, but in only 7·5 per cent. was the rheumatism immediately associated with the chorea.[3] And, except for rheumatism, it is hard to name any morbid condition which obviously associates with chorea. At the Westminster Hospital for the past three years, my colleagues, Dr. Hebbert and afterwards Dr. Syers, medical registrars, have taken special note of this matter in reference to nervous disease. From this investigation it appears that in 63 cases of chorea there were but six owning relatives who had suffered in like manner. In three the mothers, in two sisters, and in one the mother's cousin. Insanity was recorded of one father, but of no mother, and of eight relatives (grandparents, uncles and aunts). Epilepsy existed in one father, in three brothers, and in three more distant relatives. Considering the commonness of chorea and the large number of individuals represented by the relatives of 53 children, chorea, rarely inherited, would not appear to be nearly associated with either epilepsy or insanity. In all, 22, or something over a third, have neurotic relatives. And when other years are included and the total number of chorea patients is brought up to 122, it is found that 43, again something over a third, have some sort of neurotic family history.[4] So far, indeed, as direct chorea inheritance is concerned, its rarity is further attested by Dr. Osler, who finds that in 410 cases the mothers had suffered previously in but 7.

As regards the patients themselves and their own neurotic proclivities, I have myself, as I have now to confess, been misled. It appeared, that is to say, on an analysis of 120 cases, that whooping-cough was present in the history of the choreic children much more often than in that of the non-choreic. Thence it was inferred that choreic children are much more apt to contract this nervous or part nervous disease, whooping-cough, than other children. The statement of facts was accurate; the conclusion drawn from it altogether erroneous. It is true that when choreic children are placed alongside non-choreic, without reference to age, the excess of whooping-cough will always appear on the side of the former. But the simple reason for the disparity is that in such a division all, or practically all, the very young children belong to the non-choreic division, chorea being a disease of later childhood. In many of these whooping-cough is absent; they have not been long enough in the world to have had time for it. Obviously therefore, if these be reckoned with the others, the effect will be to reduce the proportion of whooping-cough on the side to which they belong. When the necessary correction is made, and the young children are eliminated, it becomes evident that in the incidence of whooping-cough there is no appreciable difference between choreic children and others. Our ward-books prove that the children of the poor rarely escape convulsive cough—so-called whooping-cough,—whether infectious or not; while among the few who do so escape chorea is, to say the least, sufficiently represented.[5]

The main inducements to chorea are, in fact, to be discovered not by any search after neurotic relatives, but by considering the age, sex, and social condition of the sufferers themselves, as well as the time of year when the disorder takes them. Chorea is not born, but bred. The bulk of the patients are children who are alarmed or put upon by harsh parents, hard lessons, school punishment, insufficient food, or ill-usage of any kind; and female children most, because they are more sensitive than the boys. I have long remarked that it is invariably the hard season of the year that brings out chorea, along with many additional woes for poor London children; and just now I have made a computation as to its season incidence, in my own ward during the last ten years. It stands thus: Of 218 children admitted on its account, 138 were were brought in autumn and winter, and 80 in spring and summer. The winter admissions, 85, are by far the largest, exceeding those of autumn, the next largest, by 32. There is no doubt an epidemic frequency of chorea, dependent sometimes upon very obscure causes, but this winter prevalence is, I believe, after many years' observation, invariable as far as London is concerned. And it is curious to note that in Philadelphia, according to Dr. Osler, chorea "greatly increases with the changeable weather of March, April, and May," after which there is a regular fall until August. I am given to understand by a friend who has lived in that part of the world that the spring and autumn months nearly correspond with our midwinter in general climatic conditions.

Nevertheless, we shall miss the full pathology of chorea and the difficulty of the problem it offers if we confine attention to terrified, over-schooled, and under-fed children, its most familiar, and beyond question its most numerous, subjects. I have at this moment under my charge a girl of seventeen, well nourished and ruddy, of quiet demeanour, good intelligence, and admirable temper. Her general health has always been good; she has never had rheumatism, joint pain, or heart disturbance, nor any mental distress, fright, or overwork, and after months of careful observation, in spite of her suffering, has never betrayed emotion. Yet this girl in the course of the last seven years has had a succession of attacks of what we call chorea. The present is the fourth, and it has now lasted eight months, during the greater part of which time she has been quite unable to feed herself. There is no assignable cause for any one of these attacks. The movements are now mainly in the arms, and they are unceasing during waking hours. Yet the girl is

[2] Disease in Children, p. 153.

[3] Medical News, Oct. 15th, 1887, p. 440. This last computation of *immediate* association, although it exceeds my own, corresponds with that of Peacock, Dickinson, and Owen.

[4] See Westminster Hospital Reports, 1885-87.

[5] Not to encumber the text with figures, it may suffice for the present to quote the following abstract in proof of what is said above:—Taking all cases of chorea as they come over a period of years, and comparing them respectively with cases of non-chorea standing next to them in the list, without any manner of selection, it appears that 105 choreic children give 75 who have had whooping-cough, while 105 non-choreic children give 50 who have had it. On the chorea side, however, there are only 3 children (all girls) as young as five; but on the non-chorea side 51 are five or under. If we leave these latter out of the question (and as many as 37 of them have not had whooping-cough), we have remaining 54 non-choreic children, comprising 36 who have had whooping-cough, a proportion not appreciably differing from that of the choreic. Again, taking the years 1884 to 1887, but omitting children of five and under, we have, on the same method of computation, 105 choreas giving but 61 who have had whooping-cough; while in the same number (105), non-choreic, as many as 75 have had it, the choreic being thus not in excess but in defect as regards whooping-cough. This difference is due mainly to two years of the period named (1884 and 1885), wherein 53 choreic children supply but 30 with whooping-cough, while the same number, non-choreic, give 39. Furthermore, and in proof that the low proportion of whooping-cough in the under-age children is the real cause of the serious excess of whooping-cough incidence on the choreic side, I find 27 children of five and under (1884) give but 8 with whooping-cough, and that 67 such children (1886) give but 19; 94 therefore give 27, or less than a third.

well and cheerful, she complains of no fatigue, does not lose flesh, and, what is yet more wonderful, keeps an even temper. When we consider the ordinary motives and subjects and accompaniments of chorea, it is difficult to include as such a case like this except provisionally, and with the admission that the name is at present so ill defined as to give room for disorders having but little real kindred.

THE TREATMENT OF CAROTID HÆMORRHAGE.[1]

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It may seem of little profit to discuss at the present day that most ancient of all surgical problems, the arrest of hæmorrhage. The practice of the surgeon in this matter has been founded upon the experience of centuries, is precise and clearly defined, and, in its general issues, must be regarded as accurate and sound. While I fully recognise this position of the subject, I would still venture to draw attention to one point in the practice of the day which I think admits of criticism. It is a question of practice, not of principle. I think that the ligature of main arteries for the arrest of bleeding in distant parts is often somewhat blindly advised and possibly too frequently carried out.

To stay hæmorrhage from arteries of medium or small size it is often only necessary that the local circulation should be temporally slowed or stopped. How long a time is required for such a vessel to be safely sealed is, I imagine, unknown. The period must depend upon the circumstances of each individual case. Anyhow, a time very soon comes when the full circulation can be restored to the part without risk of the bleeding recurring. It is a temporary modification only of the blood current that is required. It is needless to point out that when a main artery is secured for the arrest of hæmorrhage from a distant part, the vessel is permanently damaged, and its lumen, at one point at least, is permanently occluded. It may be well questioned whether in such cases more is not done than was needed—whether it is necessary or desirable to permanently occlude a main artery in order to bring about a temporary arrest of the circulation in one of its branches.

When bleeding occurs from an unknown or inaccessible branch of the carotid artery, and when this bleeding cannot be arrested by simple means, it is usual to ligature the carotid trunk. By this means the circulation in the bleeding vessel is stayed, but probably not arrested. It is at least sufficiently depressed to allow of the bleeding point being occluded by clot. The collateral circulation, however, in the carotid district is elaborate and free, and within a surprisingly short time the circulation is more or less restored in the branches of the ligatured vessel. Still, the bleeding does not recur, and the divided artery remains closed. When this end has been attained, it may appear that to permanently close the main artery of the neck is to act a little in excess of the needs of the case, since, so far as the bleeding vessel was concerned, a temporary closure of the trunk only was required.

In cases of bleeding from certain parts of the limb, experience shows how much can be done by a temporary arrest of the circulation. By the pressure of a tourniquet upon the main artery, by the constriction of an elastic band, and by such compression of the main vessel as is effected by extreme flexion of a joint, serious hæmorrhage has frequently been arrested in distant parts of a limb. Here the lumen of the trunk vessel is only occluded for a time, and when the bleeding has ceased that lumen is entirely restored. The records of surgery in the sixteenth and seventeenth centuries impress one with the value and importance of temporary pressure in the treatment of even serious bleeding.

In dealing with aneurysms of the limbs, also, it has been shown that a temporary arrest of the circulation is in many cases all that is required to bring about a cure. Digital compression of the main artery or the application of an elastic tourniquet has sufficed to solidify aneurysms for the treatment of which not many years ago the main trunk would have at once been ligatured. So far as the aneurysm is concerned, both measures may be equally successful, but in one the principal artery of the limb is permanently occluded, in the other its lumen remains unconstricted.

In the neck, pressure upon the carotid artery cannot be applied with success, or maintained for a serviceable length of time. The vessel can, however, be very readily occluded for a while and the carotid circulation arrested without the artery being permanently closed. This is effected by exposing the artery in the usual way and passing around it a thick piece of soft catgut. This is tied in a very loose loop. By pulling upon the loop the circulation through the vessel is at once arrested, but is, however, at once restored when the tension upon the loop is relaxed. Without discussing the possible value of this procedure, the following four cases may be briefly detailed.

CASE 1.—A young man, aged twenty-five, was brought to the London Hospital in 1880, bleeding profusely from a deep wound in the neck, about the level of the great cornu of the hyoid bone. While attempting to open a soda-water bottle the bottle burst, and a fragment of glass was driven into the neck. The cut made was less than one inch in length. The glass had been removed. The bleeding had been very profuse, and was arterial. The patient was blanched and almost insensible. The radial pulse could scarcely be felt. The bleeding was for the time checked by pressing a tampon against the wound. It was obviously useless to attempt to find the bleeding point while blood was welling up from so deep a wound. I therefore at once exposed the common carotid artery through a lower incision and placed a catgut loop around it. Traction upon this arrested all bleeding. The patient was placed in bed and surrounded by warm bottles. His condition was so grave that I did not feel disposed to search for the bleeding point. Traction upon the loop was maintained for half an hour. On relaxing the catgut no bleeding took place, and it never again recurred. The loop was left *in situ* for four days, when it was removed. The man, who was in vigorous health at the time of the accident, made a rapid and uninterrupted recovery. I supposed the bleeding to have come from the superior thyroid artery.

CASE 2.—In 1883, a child three years of age was admitted into the London Hospital with necrosis of the right petrous bone, purulent discharge from the right ear, and right facial paralysis. Sequestra had been removed from the meatus. On Jan. 28th the child began to bleed profusely from the right ear and also vomited blood. The hæmorrhage ceased spontaneously in about half an hour. On Jan. 29th the bleeding recurred with increased vigour. There was little doubt that it came from the internal carotid artery. I at once ligatured the right common carotid, and the bleeding ceased. The child was much reduced by the hæmorrhage. On Jan. 30th the patient began to bleed again from the right ear and mouth. The blood had evidently been brought round by the left carotid. Several cases are on record of ligature of both carotids, but in no instance has the patient recovered when the interval between the occlusion of the two vessels was less than some weeks. I therefore simply placed a loop of catgut round the left carotid. Traction upon this soon stopped the bleeding. The child never bled again. He did not rally, however, from the already severe loss of blood, and died on Feb. 5th, six days after the second artery was dealt with. The length of time, however, sufficed to prove the value of the temporary compression.

CASE 3.—A builder, aged forty-one, a man in excellent health, met with the following accident. On Dec. 7th, 1885, he fell from the scaffolding of a house in process of erection, a height of twenty-six feet. He alighted upon the iron railings around the house; the points of these railings were in the shape of spear heads, and one of them penetrated his skull. The point entered just in front of the left ear, and, passing through the maxillary bones, emerged through the hard palate of the right side, and, entering the mouth, broke one of the right upper molar teeth. The railing, having impaled the skull in this way, snapped off short, and the patient fell on the pavement with this enormous foreign body in his head. The piece of iron actually within the head measured five inches and a half in length, two inches and three-quarters in breadth, and from half to three-quarters of an inch in thickness. There was very free bleeding after the iron was removed, blood welling up from the wound and running from the nose and mouth. No pulse could be felt in the left temporal artery, and it would

[1] Read at the Medical Society of London on Jan. 9th.

seem pretty certain that the external carotid artery had been torn across. I at once put a catgut loop around the common carotid, and the bleeding was stayed when the loop was drawn upon. No bleeding of any moment occurred after the first twenty-four hours. On the fourth day a weak pulse could be felt in the left temporal. On the seventh day the catgut loop was removed. The carotid wound healed without complication. The man did well, and was able to leave the hospital some six weeks after the accident.

CASE 4. The last case is that of a man aged forty-four, from whom I removed a large malignant tumour of the neck, in June, 1886. When I had exposed the tumour, and before I commenced to remove it, I placed a catgut loop around the common carotid. Very free bleeding occurred during the operation, but it was always to be checked by traction on the loop. Without this compression of the carotid the operation would have been very difficult. A number of vessels had to be tied. I allowed the loop to remain attached for seven days, thinking there might be secondary hæmorrhage. None took place. The wound did well, and the patient left the hospital on the nineteenth day.

These four cases serve rather to illustrate the measure in question than to support its value. Had I adhered to what I believe to be the usual surgical practice, I should no doubt have ligatured the common or external carotid in three of the instances. The latter vessel would have been preferred, for the reasons so ably given by Mr. Harrison Cripps. By the use of this procedure it may be claimed that the advantages that attend compression of an artery or the temporary closure of its lumen in the case of a limb may be secured for the carotid district. By the exercise of careful antiseptic precautions I imagine that no very grave risks attend the operation itself. Certainly no local evils of any kind followed this measure in the present cases. It may be urged that damage is inflicted upon the coats of the vessel on the one hand, and that the temporary occlusion of an artery like the carotid is not without risk on the other. I venture to hope that time may pass a judgment upon these two questions.

THE PATHOLOGY OF INFECTIOUS AND INFECTIVE DISEASES,

AS ILLUSTRATED BY THE FACTS OF INHERITANCE.

BY JOSEPH COATS, M.D.

(*Concluded from p. 64.*)

AND now, gentlemen, I have dwelt at considerable length on the evidence which we have on the influence of race on infective and infectious diseases, because we have in the peculiarities of race such an obvious case of inheritance that the results obtained could scarcely fail to be acknowledged as having a sound basis of fact. We have seen that the negro race presents in quite a number of these diseases a marked contrast to the European races in its degree of susceptibility. It is much less susceptible to some, such as yellow fever, malarial fevers, and syphilis; it is much more susceptible to others, such as small-pox, phthisis pulmonalis, and leprosy. These facts indicate surely that along with the various racial peculiarities transmitted by inheritance we have certain physiological characters which determine the greater or lesser susceptibility of the members of the respective races. We do not know what these physiological characters may be, but the evidence is sufficient of their existence.

When we come to the inheritance of *this class of diseases in families* the evidence is, from the nature of the case, more equivocal; but there are, I think, sufficient indications that here also a very varying degree of susceptibility may be transmitted.

Take, in the first place, the acute infectious diseases. Every practitioner is familiar with the fact that *scarlet fever* and *diphtheria* attack with fatal frequency certain families, and in successive visitations may almost annihilate them. In the case of diphtheria, my friend, Dr. H. C. Cameron, has called special attention to this matter. In a note to the *British Medical Journal* of Feb. 22nd, 1879, he refers to the fact that, when consulted as to the desirability of tracheotomy in cases of diphtheria, he often finds that cases had occurred in members of the same family, it may be years before. He adduces four cases out of a larger number in which different members of the same families were attacked, in each case at considerable intervals of time and after the family had changed its residence. Dr. Cameron has given me recently the following striking additional case. "I was called," he writes, "to see a child at Row. Drs. Messer and McEwan of Helensburgh had opened its windpipe, and it was said to have 'croup.' There was a patch on one tonsil. It died in a day or two. The grandmother nearly died of diphtheria in Montagu-place, Bath-street, about six or eight years ago, being afterwards paralysed. Her daughter (the child's aunt) nearly died of the same disease four or five years ago in a London boarding-school, and was afterwards paralysed for months. Dr. Cameron has also shown me a letter from Dr. Fagge, of Hythe, Kent, in which he describes an extraordinary fatality in a family in that neighbourhood. A blacksmith had, in February, 1860, a family of eight children, three sons and five daughters, all adults. Of the three sons, two died of diphtheria in February, 1860, within a few days of each other. The families of four of the five daughters were affected with this disease between February, 1860, and January, 1861, as follows:—(1) Mrs. R—— had four children, three attacked and one died; (2) Mrs. P—— had six children, three attacked and two died; (3) Mrs. F—— had three children, all of whom died; (4) Mrs. D—— had one child, who was attacked but recovered. The sons were in their father's home; the daughters resided in different parts of the parish (which is an extensive one), and at a distance from their father's home.

Tuberculosis is recognised by nearly every authority as a disease in which inheritance plays a very important part, so much so that authors speak of "family phthisis." One of the most convincing evidences on this subject is furnished by a very interesting investigation made by Dr. Reginald E. Thompson, and published by him in his work on "Family Phthisis" (1884). Using the material afforded by the Hospital for Consumption at Brompton, he endeavoured to obtain a full record of the family histories of cases of consumption, and he succeeded in obtaining 80 family histories, which were apparently complete. The total number of children for these 80 families is 385, giving an average of nearly 5 for each family. Of these 203 were males and 182 females. Subtracting those who died in childhood, numbering 21 males and 16 females, who may or may not have been affected with tubercular disease, we have 348 remaining, of whom 194 became phthisical—namely, 98 males and 96 females, leaving only 154 who were exempt, of whom 84 were males and 70 females. The details given by Dr. Thompson show that inheritance was from the father in 24 families, from the mother in 30, from both in 14, and from grandparents in 12. A somewhat similar line of inquiry was prosecuted by Dr. Theodore Williams, and the results recorded in the Medico-Chirurgical Transactions for 1871. His patients were seen in private practice, and the results may be regarded as perhaps as little exposed to fallacy as possible. The general result was that the disease could be traced among relatives in about 48·4 per cent. Again, Herard and Cornil, in their work "De la Phthisie Pulmonaire" (1867), give statistics in regard to 100 patients suffering from phthisis, whom they interrogated with great care as to the occurrence of this disease in their parents. They found that of these 100 patients no less than thirty-eight had sprung from parents who had been tubercular, and if we add those whose grandparents had been so we should probably have about half of all cases showing hereditary predisposition. Lastly, I may quote the opinion of Laennec as expressing the general conclusions of a man who looked broadly at the subject. In his "Treatise on Diseases of the Chest"[1] he says, "If the question of contagion (in phthisis) is very doubtful, the case is very different with the hereditary predisposition. The universal and habitual experience of practitioners proves that the children of phthisical parents are more subject to this disease than others are." Then he goes on to comment on the frequency of exceptions; sometimes only one or two members of a family are consumptive in each generation, or we may find large families destroyed whose parents are healthy. He instances a case of his own in which the father and mother died, upwards of eighty years of age, of acute diseases, after seeing fourteen children die of consumption between the ages of fifteen and thirty-five.

[1] English Translation, 1834.

CONCLUSIONS.

I may now be permitted, in conclusion, to gather up the principles which the facts adduced seem to me to involve, and to indicate the bearing which they have upon the pathology of infective and infectious diseases.

We have seen that, in the case of a large number of diseases of this class, inheritance, whether we take it more broadly in the race or more particularly in the family, has an undoubted and frequently a very great influence on the susceptibility to infection. This varying degree of susceptibility exists in the case of diseases which are demonstrably due to the action of micro-organisms, and we are driven to the conclusion that a micro-organism which is pathogenic in the individuals of one race to a high degree is non-pathogenic, or nearly so, in the individuals of another race.

Recurring to our remarks on the general principles of inheritance, it seems necessary to relate this difference in susceptibility to fine differences in the structure and activity of the tissues. We have seen that the differences in the races depend on variations in the details of their tissues, such as singly might seem to be of comparatively little moment. The differences in individuals of the same race are still more minute, and depend on still finer variations in the details of the tissues. Coming to undoubted cases of inheritance of morbid conditions, we saw by illustrations that it was variations in the details of structure and function which are the subject of inheritance. In ichthyosis it is the structure and mode of growth of the epidermic cells; in hæmophilia it is the structure, presumably, of the bloodvessels; in Daltonism the finer details of the structure and function of the retina. In all these cases it is the structure and activity of the finer elements of the tissues concerned which are at fault.

When we find that the varying susceptibility to infectious and infective diseases is also related to inheritance, then we must, I think, relate it to the same kind of variations as those which we have found to be the subject of inheritance both of normal and abnormal structures. It is, again, the structure and vital activity of the elements of the tissues with which we have to do. If, as we have seen, the negro race differs very remarkably in its susceptibility to infectious disease from the European races, then we are led to believe that this depends on fine differences in the structure and activity of its tissues, such as determine the characters of race. It is the living active tissues with which we have to deal, and it is peculiarities in these, determined by inheritance, which, I believe, constitute the differences.

Let us take it for granted that some at least of the diseases in question depend on micro-organisms. We know that the living active cells which compose the epidermic and epithelial tissues exercise an important influence in preventing the entrance of micro-organisms. Abundant bacteria are present on the surface of the skin and in the alimentary canal, but the epithelial and epidermic cells inhibit them, and prevent their entrance into the body—that is part of the function of these cells. Similarly, the cells of a granulating wound inhibit the bacteria which may swarm in the pus bathing the wound. These micro-organisms become dangerous when they are carried beyond these surfaces, as when perforation of the stomach or intestine occurs, or when decomposition takes place in a recent wound before granulations have had time to form. The living tissues beneath these surfaces have less power of inhibition, although still possessing it in some degree. It is only certain micro-organisms which will survive, even if introduced in the way mentioned. It is important to remember that each living tissue consists of an immense number of living active cells, each of which has its own vital processes. The micro-organisms also consist of living active cells, which possess an extraordinary power of multiplication by division. I believe we must look for the solution of the problem to the contending activities of the two kinds of cells.[2] No doubt there are intricate chemical problems involved in all this. Each cell has its incomings and outgoings, and it is quite possible that it may be by means of some of the chemical products that the inhibition is effected; but of this we know nothing, and we can only associate it with the vital activity of the elements of the tissues.

Of course, it is not to be inferred that inheritance is the only item in determining variations in susceptibility. We know that the same individual will at different times present remarkable variations in the degrees of susceptibillty to the same morbific agent. I have chosen inheritance to illustrate the subject because it appeared to me to offer examples which would serve to indicate the kind of influence concerned in the varying degrees of susceptibility to the class of diseases under consideration.

If my remarks are justified by the facts which I have adduced, then I think there can be nothing contradictory in speaking of the varying susceptibility of different persons or of the same person at different times to the same infective or infectious disease. We can recognise in all such cases the action on the one hand of the morbific agent, and on the other the reaction of the living tissues.

[2] This subject of the struggle between the cells and micro-organisms is being worked out, from the experimental side, by German observers, the chief of whom is Metschnikoff. Certain cells have the faculty of devouring such bodies as bacteria, and hence the name "phagocytes," which is applied to them. The literature of the phagocytes is already a considerable one, and includes the record of many very striking experimental investigations.

ON THE

CONTRACTIONS OF THE UTERUS DURING THE WHOLE OF PREGNANCY;

AND THEIR VALUE IN DIAGNOSIS OF PREGNANCY, BOTH NORMAL AND ABNORMAL.

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(*Concluded from p. 66.*)

CASE 1. *Fibroma of uterus; pregnancy.*—A lady, recently married, asked me as to her condition, she not having menstruated for two months. The uterus was larger than usual for pregnancy of that duration, and I requested her to call in three or four weeks' time. The uterus by this time had still enlarged, and the amenorrhœa continued. I expected that there was pregnancy, but complicated, as, being as large as at four months' pregnancy, one ought to have had some evidence of the fœtal presence. I arranged to wait a month, and then to examine carefully under anæsthetics. This was done. I was able clearly to make out that the uterus consisted of two portions, one of which to the left was solid, the other softer, and this part was noticed to alter in density at intervals. The fœtal parts could be made out in this changing part, and from the position of the tumour I gathered that there would be no serious impediment to the exit of the child, at least not until the eighth month. Shortly after this examination the symptoms of a living child were clearly marked. But about the beginning of the seventh month anasarca appeared, with much albumen in the urine. From this time the fœtal movements began to become weak, and finally subsided. At the same time the anasarca increased, and as there had been no movements or other signs of fœtal life for some time, and fearing serious uræmic mischief, the membranes were ruptured. The fœtus came away in due time, but the placenta being attached to the fundus, its exit was impeded by the tumour, which bulged across now that the uterus was empty, and the medical man in attendance had much difficulty in passing his hand; indeed, it was nearly two hours after the delivery of the fœtus that this was accomplished. Pyæmic symptoms shortly followed, and she died about two weeks after delivery; but the day before this occurred, the tumour, in a sloughing state, came away. The point of this case in reference to the subject of this paper is that the diagnosis of pregnancy and the exact relations of the uterus and the tumour was made clear by the intermittent action of the uterus as felt by the hand placed on the abdomen.

CASE 2. *Pregnancy at five months; fibroma in anterior wall.*—I was asked to see a young married woman, who about four months after marriage complained of much pain in the lower abdomen. This led her medical man to examine this part. He found to the left half way to the umbilicus a prominent lump the size of a medium-sized orange. As the menses had ceased four months, he thought it might be an extra-uterine conception. I found the tumour hard and plainly to be felt; but, on closer observation, I also found a soft swelling behind it nearly reaching to the umbilicus about the size of a fourth-month pregnancy. That this

latter swelling was the uterus was plainly shown by its assuming a firm condition and again resuming its soft state, and it was also clear the lump which had attracted her medical man's notice was a fibroma in its anterior wall. The alteration of density every five minutes was well exemplified in this case.

CASE 3. *Pregnancy at fourth month; extreme obliquity of the uterus; hæmorrhage severe and recurring; induction of abortion.*—In this case the menses had been absent about three months when a sharp hæmorrhage occurred from the uterus. This continued frequently for a month. At the end of that time considerable pain occurred, followed by a gush of blood, relieving the pain. There was a swelling at the lower abdomen. During the pain it was very hard, but became softer after the flow of blood. I was asked to see her by her medical man. I found the os pointing to the right side of the vagina, and a soft mass extending over to the left side of the pelvis. There was a swelling of similar density also above the brim, reaching half way to the umbilicus. On further examination, the portion of the swelling touching the left side of the pelvis was found more solid than the other portion. It was therefore of importance to know, in view of the translation of the os and cervix to the right, whether the uterus was gravid but placed obliquely, or whether a tumour existed on the left, pushing the fundus of the uterus over to the right. This would have been possible by an extra-uterine fœtation cyst. However, by noticing the effect of the intermittent action of the uterus, it was quite clear that the whole mass was the pregnant uterus in an oblique position. The more solid portion was owing to the placenta, a point to be frequently noticed in pregnancies of about this duration till the sixth month. In this case the movements of the fœtus were plainly felt in the right side of the mass—that is, in the least firm portion, as observed during the intervals of the contractions. The sequel of the case confirmed this diagnosis, for, as the hæmorrhages continued to recur for some time with violence, notwithstanding careful treatment, her medical man induced delivery.

CASE 4. *Pregnancy at seventh month; suspected to be complicated; possibly extra-uterine.*—I was asked to see a multipara, as her medical attendants had for some reason considered there were indications of extra-uterine pregnancy. I found the presence of the fœtus indicated sufficiently clearly by movements and heart sounds, and by mobility. In a few moments the uterus contracted, and it enveloped the fœtus entirely. Outside of the uterus there was no other swelling. It was therefore clearly a case of normal pregnancy.

CASE 5. *Pregnancy at eighth month; suspected to be an ovarian tumour.*—A lady (multipara) was sent to me to advise as to the removal of an ovarian tumour. On examination I found the solid portions movable and self-moving. In a short time I felt these parts enveloped by a firm surrounding, which again became indistinct; and this was repeated many times. I heard, also, the fœtal heart. I had thus proof not only of pregnancy, but also of an inter-uterine conception; and when the uterus was in a state of contraction, I also was able to observe that there was no other tumour in the abdomen.

CASE 6. *Suspected extra-uterine pregnancy, proved to be natural pregnancy, with fibroma, at sixth month.*—I was asked by a medical man to see a woman who had been seven or eight years without pregnancy, although she had had some miscarriages, and had had a fibroma which had been treated by division of the capsule some four years since. The medical attendant had suspected an extra-uterine pregnancy, for he felt some swelling above the pubes different from the normal pregnancy. After some little patience I found the whole mass was the uterus, by the whole becoming firm and then soft. I then easily made out that there was a tumour in the anterior wall the size of a hen's egg.

CASE 7. *Pregnancy, with fibromas in uterine wall.*—I was asked to see a lady, married ten years. She had been examined by her medical attendant, who detected a firm swelling irregularly placed just above the brim, more to the left. She had missed two monthly periods. She felt a good deal of uneasiness at the seat of the swelling. I found by digital examination that certainly the whole was the uterus, and doubtless that there were several tumours included in its walls. I suspected that pregnancy had supervened, but of course at so early a period this point could not be settled. I saw her a month after, and though I could not then settle this point, there was increased probability of its existence, because the whole mass had increased at due rate, and there was no recurrence of menses. I again saw her at the end of the fifth month, when the uterus was still enlarging and the menses still absent; but I noticed that the tumours were more distant from each other, that there was elasticity in the parts between, and on careful observation I found that this portion was distinctly altered in density. I therefore concluded that we had to deal with a pregnant uterus which held fibroid tumours in its walls; but no positive evidence of fœtal life had appeared, though I presume that it was alive, from the steady progress of the enlargement. I again saw her at the seventh month, finally to determine the nature of the case and the line of treatment. I then found all ambiguity had vanished. Signs of fœtal life were ample, and the uterus had, by its development, spread out the tumours so that the space between showed well the contractions at intervals; and vaginal examination showed also that there would be no tumour likely to interfere with the descent of the fœtus. It was therefore determined to let the pregnancy proceed. The result proved satisfactory. Labour came on at term, being natural except a little tardy. Forceps were used to expedite matters, but no force was required, and there was no hæmorrhage.

CASE 8. *Pregnant uterus restrained by adhesions very firmly contracted for weeks.*—A former patient of mine came to me complaining of very severe pain just above the pubic symphysis, occurring in paroxysms both during the day and night. She had not menstruated for two months, giving as a reason that she had caught cold. There was no tenderness, but internal examination showed me the uterus enlarged, equal to the two months' conception. I ventured to suggest this as the reason for the uterine enlargement and the pain, owing to contraction. She called on me again in a month, still complaining of the severe paroxysms of pain. She had but little tenderness at the seat of pain. The uterus was still further enlarged, and the menses had not yet occurred. But the uterus was very closely applied to the abdominal walls, just above the pubes, and from its fixed condition I considered it held down by adhesions. At her next visit, in about another month, after the uterus had increased at the rate of ordinary pregnancy, now supposed to be the fourth month, the pains were much complained of, and had not yielded to remedies, and the contact of the uterus with the abdominal walls in front was so marked as to make one think the swelling was actually in them; the uterus was so firm and hard as to appear rather as a solid fibroma, and so it remained during the whole of a prolonged examination. So that although I still believed I had to do with a pregnancy, yet, as I was about to propose another interview to determine this point, I asked her to again lay down on the couch, and on placing my hand over the tumour, I was much gratified to find the whole hardness to have disappeared, and in its place the ordinary softness of a pregnant uterus in the quiescent state. I had, however, no signs of fœtal life, though I concluded that it was probably growing naturally, as there had been no hæmorrhage, nor was the size of the uterus below my expectation. But all the signs of fœtal life came in due time, and although there was much distress from the contractions, she was delivered of a living child at term. This persistent hardness is rare unless the ovum be unhealthy, as before remarked. Doubtless it has a greater or less sinister influence on the fœtus, though in this instance we had no evidence of it. Possibly it was relieved by some degree of laxation, as was apparent by the cessation of the pains at intervals.

As a brief *résumé* of my papers on the subject I may add: 1. That during the whole of pregnancy the uterus contracts at intervals, varying much, but commonly from five to twenty minutes, remaining so for a shorter time—say, from three to five minutes. 2. If we place the examining hand at the time of contraction on the uterus, it will be firm, pear-shaped, and the fœtal parts not readily, if at all, detectable; if we place our hand on during the state of rest, or allow it to remain on till the firm state is passing off, then the outline of the uterus is indistinctly felt, sometimes it cannot be felt at all, while the fœtus is to be more or less clearly made out, and can often be pressed with the fingers outside into various positions, even as early as the fifth month. 3. By noting these facts we are enabled with ease in general to decide as to the existence of normal pregnancy, to diagnose between this and various tumours, both

uterine and abnormal, between pregnancy and distended bladder, and other conditions easily called to mind by the practitioner. 4. That these intermittent contractions have the physiological use of emptying the loaded uterine veins, changing highly carbonised blood for that more aerated. 5. That from observations I have made I am inclined to think that there is some pretty constant relationship between the accumulation of this highly carbonised blood and the fœtal movements, and also between the fœtal movements and the uterine contractions. Finally, I can confidently recommend the consideration of this additional help in the recognition and diagnosis of pregnancy as one easily learnt and readily applied. It has in my own practice proved to be of the greatest service for many years.

FURTHER INVESTIGATION INTO

THE SO-CALLED HENDON COW DISEASE AND ITS RELATION TO SCARLET FEVER IN MAN.[1]

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AT a special meeting of the Pathological Society I laid before the members present the results of an investigation which, though admittedly incomplete in some details, enabled me to bring forward evidence to show that the theory that a certain eruptive disease of the teats of cows at Hendon was the very disease which we call scarlet fever in man could not be maintained. That was the object of my communication, while as a side issue—which I nevertheless regarded as of greater interest than the overthrow of the above-mentioned theory—I brought forward evidence to show that this disease was in reality cow-pox. I was anxious that these conclusions should be made known without delay, partly to allay the public anxiety, and partly because I wanted to give every opportunity for my statements to be examined. Thus I wished to afford anyone interested in the matter an opportunity for visiting the farms while the details were fresh in the memory of the milkers, and before the disease had totally disappeared from among the cows. I pointed out that the study of the streptococcus which I had isolated was not yet completed. I had yet to study the effects of inoculation, and I was therefore only in a position to say that this streptococcus corresponded morphologically and on cultivation with the so-called scarlatina streptococcus. I inclined to the belief that these organisms were identical, not only with each other, but with certain other organisms which had been regarded originally as distinct species. I promised further investigation on these points, and I also stated that I thought I should find in a calf at the Royal Veterinary College the post-mortem appearances which had been described by Dr. Klein. This animal showed symptoms of septicæmia, and has now been killed and carefully examined. I will therefore proceed to lay before you the details of these and of further inquiries in connexion with this subject. I desire to lay this further evidence before you so that you may be concerned to-night in discussing the identity of the disease I have investigated with the disease which has been fully described clinically and pathologically by Dr. Cameron and Dr. Klein, and the micro-pathology of which has been so fully illustrated by Dr. Klein in a very extensive series of lithographed plates.

DESCRIPTION OF THE STREPTOCOCCUS ISOLATED FROM THE ULCERS OF THE TEATS.

I will first describe more in detail the chain-forming micrococcus which I found in the discharge from the ulcers. The individual cocci are small spherical cells, with a special tendency after fission for the resulting elements to remain attached to each other, forming chains or rosaries. There may be a few—three or four—elements linked together, or a number of individuals forming straight or serpentine chains. The size of the individual elements is not always equal, here and there in the chain a larger element appearing. In plate cultivations the appearances of the colonies are not very striking. They appear to the naked eye after three or four days as extremely minute, greyish-white, translucent dots, which, under the microscope, have a slightly yellowish-brown colour. They are finely granular and well defined. They do not liquefy the gelatine, and after weeks do not exceed the size of a pin's head. If the surface of nutrient gelatine solidified obliquely is traced over once or twice with a platinum needle, bent at the extremity into a little hook charged with the micrococci, a ribbon-shaped film develops in two or three days at 18° C. This film is composed of minute, greyish-white translucent dots or droplets, which can be more easily recognised with the aid of a pocket lens. According to the number of organisms seen on the jelly, the dots or colonies may be completely isolated or form a more or less continuous film. This film by reflected light has an iridescent appearance like mother-of-pearl, but has a bluish or bluish-grey tint by transmitted light, and with a pocket lens appears distinctly brownish. The gelatine is not liquefied, and even after several weeks the cultivation is limited to the inoculated area and the individual colonies are not larger than pin's heads. Cultivated on the oblique surface of nutrient agar-agar at 37° C. the growth is very similar, forming a film composed of minute dot-like colonies like grains of sand. But the film appears less transparent, is whiter, and the colonies have a greater tendency to get irregular in form. If inoculated with one tracing of the needle the growth is scanty, but tends to get thicker in the centre than towards the margins, which may have a terraced appearance. Inoculated in the depth of the gelatine, there appears after a day or two, at 18° C., a thread-like growth along the track of the inoculating needle. This delicate thread is found on examination with a pocket lens to consist of a linear series of extremely minute granules. In a few days more the beads or granules become more marked, but even after weeks the cultivation only appears like a string of minute white compact globular masses or grains. In broth at 37° C. the cocci in twenty-four hours create a turbidity, and gradually develop chains varying in length according to the age of the cultivations. Even in forty-eight hours there may be chains of eight, ten, or twenty elements. After a few days the growth settles down at the bottom of the tube in the form of a white deposit, while the supernatant liquid becomes clear again. Cultivated in milk at 37° C., they convert it in two or three days into a solid mass, while uninoculated control tubes remain liquid. Inoculated subcutaneously in the ear of rabbits, they produce in two days an imflammatory thickening with erysipelatous redness, and without suppuration.

DETERMINATION OF THE SPECIES: STREPTOCOCCUS PYOGENES.

From its microscopical appearances, its characters on cultivation, and its effects on animals, it is obvious that this organism is identical in every respect with the streptococcus found in acute abscesses by Ogston, and studied more minutely and named *streptococcus pyogenes* by Rosenbach. For some time my attention has been drawn to the probable identity of the organisms described in puerperal fever, measles, scarlatina, and diphtheria with the chain-forming micrococcus in pus, and I find that, independently, bacteriologists on the Continent have not only considerably extended that idea, but have come to definite conclusions. Formerly certain differences in the result of inoculation of animals were regarded as establishing a distinction of species; but further researches have shown that often these differences are not constant, and, moreover, in the history of the well-known pathogenic organisms we meet with different effects produced by one and the same species. Indeed, we find that the pathogenic effect depends upon several conditions, such as the source of the micro-organism, the dose, the mode and place of infection, and the nature of the inoculated soil. The principal method of attenuation of virus depends upon the fact that by passing organisms through different animals they assume different properties. The anthrax bacilli from sheep are fatal to sheep, but if passed through mice produce a transitory illness. The microbe of swine erysipelas passed through pigeons is increased in pathogenic power, but by passing through rabbits is progressively diminished, producing only a mild disease. But not only is the pathogenic effect different, but the organism itself may be altered. Thus, according to Huber, anthrax bacilli from the guinea-pig are thicker than when they are derived from the mouse or sheep, and the latter are thicker than in the rabbit.

[1] Further abstract of report to the Agricultural Department of the Privy Council, read before the Pathological Society, Jan. 17th, 1888.

Even the *streptococcus erysipelatis* of Fehleisen, which at first was regarded as quite a distinct species, has been identified by many German authorities with the *streptococcus pyogenes*. Similar in their microscopical features and their characters on cultivation, Baumgarten does not consider it beyond the limits of possibility that they might differ in their effects on inoculation, according to the condition with which they had been associated. Thus, when derived from suppuration, there might be a tendency towards the development of an inflammation, accompanied with the formation of pus; and when derived from erysipelas, there might be a tendency towards the formation of an erysipelatous inflammation without suppuration; while under other conditions, the organisms might lose their pathogenic properties altogether. But apparently there is no longer even this distinction, for these differences after inoculation have been minimised by recent researches. I will give further details of these investigations directly, and I will now proceed to enumerate the various diseases and conditions in which the continental authorities principally have arrived at the conclusion that we have to do with one and the same micro-organism.

DISTRIBUTION OF STREPTOCOCCUS PYOGENES.

Acute abscesses.—I have already mentioned that a chain-forming micrococcus was first described by Ogston in acute suppuration. It was later studied by the methods of cultivation introduced by Koch, and named by Rosenbach *streptococcus pyogenes*. According to Flugge, after subcutaneous inoculation of mice with a small quantity of a cultivation, there is no result in 80 per cent. of the animals experimented on. Sometimes there is limited pus formation at the seat of inoculation; sometimes the animals die without any very striking pathological appearances.

Erysipelas.—In erysipelas Fehleisen isolated a streptococcus and described the appearances on cultivation. Fehleisen regarded the organism as quite distinctive, with special characters on cultivation; but Rosenbach pointed out the extremely close resemblance in every respect to the *streptococcus pyogenes*, though he described an apparent difference on cultivation on nutrient agar-agar. Further investigation, however, by other observers showed that these organisms could not be distinguished with certainty by either their morphological appearances or by their characters on cultivation. Moreover, the marked differences which have been described after inoculation were not obtained by those who repeated the experiments. Passet found that the result of inoculating *streptococcus pyogenes* in the rabbit's ear induced a very similar condition to the result of inoculation of *streptococcus erysipelatis;* and both organisms, by subcutaneous inoculation, and by inoculation in the cornea of rabbits and other animals, induced results without any constant difference. Passet showed that the inoculation of the cornea produced the same form of keratitis. Hoffa and Hajek described minute differences at the seat of inoculation, but Biondi and Eiselsberg repeated the experiments, and failed to establish the alleged differences. Baumgarten also investigated this subject, and failed to prove any essential difference, and, indeed, found much more often than might have been expected from the publications of previous authors that no marked result at all was obtained on inoculation; and he concluded that *streptococcus pyogenes* and *streptococcus erysipelatis* in their form, cultivation and their effects on animals were identical. Thus, Passet, Biondi, Eiselsberg, Baumgarten, and Fränkel have definitely accepted the identity of the streptococcus associated with suppuration, and the streptococcus associated with erysipelas.

Spreading gangrene.—From a case of spreading gangrene, which was identical with Ogston's erysipelatoid wound gangrene, and regarded by him as the most intense and dangerous form of erysipelas, Rosenbach obtained pure cultivations of *streptococcus pyogenes* by incising the skin of the limb, and inoculating tubes from the turbid reddish fluid which escaped. That the streptococcus was identical with *streptococcus pyogenes* was ascertained by comparison of the mode of growth, and of the effect on animals with a cultivation derived from pus.

Surgical fever.—Eiselsberg proved the presence of *streptococcus pyogenes* in the blood of several cases of surgical fever in Billroth's clinic. The organism was identified by cultivation.

Puerperal fever.—Fränkel isolated from puerperal septicæmia a streptococcus which he called *streptococcus puerperalis;* he identified it with *streptococcus pyogenes*. Winkel obtained a pure cultivation of a streptococcus from the blood of the heart in a case of puerperal peritonitis. It produced erysipelatous redness when inoculated in the rabbit's ear, and in form and in cultivation was similar to *streptococcus erysipelatis*. Cushing found that *streptococcus pyogenes* was associated with puerperal infection. The cocci were found in endometritis diphtheritica as well as in secondary puerperal inflammation. These observations were confirmed by Baumgarten, and there can be little doubt, from the description, that the streptococcus isolated from puerperal fever by Dr. W. R. Smith, which is regarded by Dr. Klein as a distinct species of streptococcus, is the same organism as the one previously found by the observers just named, and, if so, it is only another manifestation of *streptococcus pyogenes*.

Puerperal mastitis.—In puerperal mastitis Bumm isolated the *streptococcus pyogenes*.

Diphtheria.—In three cases of typical diphtheria Löffler found a streptococcus. He isolated it by cultivation, found that it was similar in form, characters on cultivation, and effects after inoculation with Fehleisen's streptococcus of erysipelas. Löffler was not inclined to regard them as identical, because Fehleisen never found his cocci in the bloodvessels. Flügge named the organism *streptococcus articulorum*, and states that, after subcutaneous inoculation or injection of a cultivation in mice, a large proportion of the animals die, and in sections of the spleen and other organs the streptococci are again seen. Baumgarten investigated the same subject, and decided that the streptococcus was *streptococcus pyogenes*.

Scarlet fever.—Crooke, in cases of scarlet fever with severely affected throat, found bacilli, cocci, and streptococci in the organs of the throat, and cocci in the internal organs. Crooke left it an open question whether these cocci were the specific organisms of scarlet fever, or to be regarded as diphtheritic or septic associates. He inclined on clinical grounds to the latter view.

Löffler, in cases of scarlatinal diphtheria, found the same chain-forming micrococcus which he had found in typical diphtheria.

Babes was able to constantly prove in inflammatory products secondary to scarlatina the presence of a streptococcus greatly resembling that in pus.

Heubner and Babrdt, in a fatal case of scarlet fever in a boy, complicated with suppuration of the finger and knee joints and with pericarditis, found a streptococcus identical in form, from his description, with *streptococcus pyogenes*. Cultivations were not made. The secondary infection started from the diphtheritically affected tonsils, which were followed by retro-pharyngeal abscess.

Fränkel and Freudenberg examined for micro-organisms three cases of scarlatina with well-marked affection of the throat. In all three cases they obtained cultivations of cocci from the submaxillary lymphatic glands, spleen, liver, and kidney. These cocci could in no way be distinguished from *streptococcus pyogenes* derived from pus, nor from the undoubtedly identical streptococcus which one of them (A. Fränkel) had already repeatedly cultivated in large numbers from puerperal affections. In two of the cases *streptococcus pyogenes* was the only organism present, and in all three cases it was far in excess of other colonies which developed. The organisms were also found in sections of the organs by microscopical examination. The identity of this streptococcus with *streptococcus pyogenes* and *streptococcus puerperalis* was established by comparison of their macroscopical and microscopical appearances in cultivations on nutrient agar-agar, nutrient gelatine, and in broth, both at the ordinary and at higher temperatures, and also by experiments on animals. They concluded that it could be stated with certainty that the organisms in question did not stand in causal relation to scarlet fever. They considered that special methods of microscopical and biological research were apparently needed for demonstrating the true scarlet fever contagium, which probably was especially present in the skin. They considered that the presence of the streptococcus was due to a secondary infection, to which the door was opened by the lesions of the throat—a view which was supported by the fact that the organisms were found in the submaxillary lymphatic glands. They preferred to use the term "secondary" to "complicated" or "combined" infection, because this expresses the fact that by the effect of the scarlatinal virus the soil is rendered suitable for this ubiquitous microbe when it has once gained an entrance.

Dr. Edington, from the blood and desquamation of scarlet

fever, cultivated a streptococcus, which he named provisionally *streptococcus rubiginosus*.

Dr. Klein examined eleven cases of scarlet fever. In ten of them the tonsils were ulcerated, and in many severely. From five cases, from four during life, and from one after death, all with ulcerated throat, a streptococcus was isolated, in one case in company with *staphylococcus aureus*. Dr. Klein regarded this streptococcus organism as the contagium of scarlet fever, and named it the *micrococcus scarlatinæ*. The Edinburgh Commission identified morphologically Dr. Klein's streptococcus with the *streptococcus rubiginosus*, and Dr. Woodhead suggested that it was identical with the *streptococcus pyogenes*.

Tinned milk.—From a specimen of tinned milk which had been suspected of containing the contagium of scarlet fever Dr. Klein isolated a streptococcus which he regarded as identical with the streptococcus from the scarlet fever cases. If the organism is identical with the streptococcus of scarlatina, it is obvious that improperly preserved milk is another source of the *streptococcus pyogenes*.

Monkey after death.—From the blood of a monkey, which Dr. Klein received two days after death, a streptococcus was isolated which corresponded with the streptococcus from the Hendon cow disease, from the scarlet fever cases, and from the tinned milk. This monkey died in a house where scarlet fever had occurred. From the presence of this streptococcus, and from the anatomical condition of the viscera, Dr. Klein regarded as without doubt the unity of this disease with acute scarlatina. The post-mortem appearances, however, were from description the post-mortem appearances of septicæmia, which are common to many diseases besides scarlet fever; and the streptococcus, which can only be regarded as the *streptococcus pyogenes*, may have been either the result of septic infection secondary to some undetermined disease, or it may possibly be accounted for by the animal not being examined earlier than two days after death.

So-called Hendon cow disease.—In the disease which Dr. Klein calls the Hendon cow disease a streptococcus was isolated which is identical with the streptococcus from scarlet fever. The Hendon cow disease was regarded as scarlatina in the cow, and the streptococcus as the *micrococcus scarlatinæ*. From the ulcers of the Wiltshire disease I have isolated an organism identical with the description of Dr. Klein's streptococcus. I regard this disease as cowpox, and the organism as identical with the *streptococcus pyogenes*,

Vaccinia.—In vaccine lymph, Cohn and others have recognised the presence of micro-organisms. Guttman and Pfeiffer have separated the different species by Koch's methods. Guttman found — (1) *micrococcus pyogenes aureus;* (2) *staphylococcus viridis flavescens:* (3) *staphylococcus cereus albus.* (Syn. *micrococcus vaccinæ*, Cohn, Voigt, Garré). Dr. Klein has isolated a micrococcus which he calls *streptococcus vaccinæ*, and which he states is identical with one of Guttman's cocci. But the *streptococcus pyogenes* may occur in vaccine lymph, and Pfeiffer regards it as the result of contamination. Hence, it is suggested that before calf lymph is employed for vaccination it should be tested on a rabbit's ear. If in two days no rash has been produced, the possibility of the presence in the lymph of *streptococcus pyogenes* or *erysipelatis* is excluded. The nature of the contagium in vaccinia as in scarlet fever is unknown.

Variola.—In the pustules of variola Hlava has established the presence of *streptococcus pyogenes*, and Garré found streptococci in the internal organs in a case of variola hæmorrhagica.

Variola and pemphigus.—In a fatal case of variola complicated with pemphigus, Garré found a streptococcus in the pemphigus vesicles. Whether it was identical with streptococcus erysipelatis Garré left an open question.

Foot-and-mouth disease.—In 1868 Professor Brown figured a streptococcus in the milk of cows affected with foot-and-mouth disease. From the vesicles of this disease in sheep Dr. Klein isolated a streptococcus which he regarded as the contagium of the disease. From Dr. Klein's description of its morphological features and characters on cultivation it closely corresponds with *streptococcus pyogenes*. Mr. Watson Cheyne investigated the same disease, and informs me that he also isolated a streptococcus, which he concluded was *streptococcus pyogenes*. Baumgarten also regards Dr. Klein's alleged contagium as most probably the *streptococcus pyogenes*. Against the fact of this organism being the virus of this disease, and in favour of its being *streptococcus erysipelatis* we have the results of inoculation experiments. A great number of subcutaneous inoculations in sheep were without any result. One of several guinea-pigs fed with the organism had an abscess, another an ulcer. In sheep fed with the organism, two out of nine, after a number of repeated administrations, developed a disease regarded by Dr. Klein as foot-and-mouth disease. There is the possibility of two fallacies—one that the disease, if really foot-and-mouth disease, may have occurred spontaneously; the other, that the result which occurred may have been a spurious form of foot-and-mouth disease. The control experiment of exposing a number of sheep with these two sheep to see if the disease spread was wanting.

Cattle plague.—Semmer cultivated streptococci from the blood and lymphatic glands of a sheep with this disease. A calf inoculated with a cultivation was stated to have died in seven days from cattle plague. The cocci were stated to lose their virulence by successive cultivation, and the weakened cultivation to protect against the virulent disease. I think it extremely likely this was another manifestation of *streptococcus pyogenes*, and that the animal died very probably of septic infection. Dr. Klein is also of opinion, in spite of Semner's statements, that the specific nature of these micro-organisms cannot be considered to be established.

Swine fever.—In a severe case of this disease, with well-marked intestinal ulceration, I have obtained from the blood of the spleen a mixed cultivation of streptococci and other organisms. Isolation and cultivation in the pure state are not yet completed. It was very probably mixed infection with *streptococcus pyogenes*.

Yellow fever.—Babes observed the presence of streptococci in the vessels of the kidney and liver in yellow fever. Cultivation experiments are wanting. It was probably secondary infection with *streptococcus pyogenes*.

Fièvre bilieuse typhoïde.—Babes, in a case of this disease, found masses of streptococci filling the vessels of the liver, kidney, and spleen. Probably another instance of secondary infection with *streptococcus pyogenes*.

Measles.—From the blood and from inflammatory post-products in measles Babes isolated a streptococcus which he describes as closely resembling the *streptococcus pyogenes*.

Endocarditis.—Wyssokowitsch found cocci in the internal organs in ulcerative endocarditis, and produced the disease in animals after injury to the valves by injection of *streptococcus pyogenes* and other organisms. Wechselbaum, by microscopical research and by cultivation experiments, proved the presence of *streptococcus pyogenes* in acute verrucous endocarditis. Baumgarten confirmed this. He found *streptococcus pyogenes* alone in one case, and accompanied by *staphylococcus aureus* in another.

Typhoid fever.—Senger found a streptococcus in a case of typhoid with secondary infection. This was probably *streptococcus pyogenes*.

Suppuration after typhoid.—Dunin found in post-typhoid suppuration the well-known pyogenic organisms, mostly as staphylococci, but sometimes streptococci.

Pneumonia.—Wechselbaum found the *streptococcus pneumoniæ*, which resembled *streptococcus pyogenes* and *erysipelatis* morphologically and on cultivation. It was found in twenty-one cases by microscopical research, and cultivated in nineteen. It had no effect on the rabbit's ear. Baumgarten, nevertheless, regards this as *streptococcus pyogenes*, and is of opinion that it is only a matter of further research to establish that view.

Pneumonia after typhoid.—Neumann found streptococci by microscopical research in the lungs, and by cultivation isolated a streptococcus. It corresponds with Wechselbaum's streptococcus in not affecting the rabbit's ear.

Empyema.—Rosenbach obtained a pure cultivation of *streptococcus pyogenes* in a case of empyema. Wechselbaum in two cases also established its presence.

Broncho-pneumonia.—Thaon found chain cocci in the lungs of children in fatal cases of broncho-pneumonia, complicating measles, diphtheria, and whooping-cough. They were regarded as identical with the streptococcus isolated by Löffler from diphtheria. Fränkel discovered a streptococcus in the lungs of a case of true croup complicated with broncho-pneumonia, and by cultivation established its identity with *streptococcus pyogenes*.

Progressive tissue necrosis in mice.—Koch produced a disease in mice by subcutaneous injection of putrid blood. In tissue sections a chain coccus was found, and Baum-

garten is of opinion that it is very probably identical with the *streptococcus pyogenes*, but cultivations are still wanting.

Septicæmia consecutive to anthrax.—Charrin found cocci in rabbits, examined some hours after death, from anthrax. These, when isolated, produced death in rabbits from septicæmia without suppuration. Chains composed of from fifteen to twenty elements were found in all the organs. This was probably another instance of *streptococcus pyogenes*.

Pyæmia and septicæmia.—Rosenbach examined six cases of pyæmia. From Case 1 cultivations of *streptococcus pyogenes* were obtained from the blood of the patient during life. The blood was stroked over the surface of the culture medium, and in two tubes the *staphylococcus pyogenes aureus* was also present. In Case 2, with suppurative pleuritis, the pleura was tapped during life, and cultivations of *streptococcus pyogenes* were obtained. In Case 3 streptococci were found in the metastases in the kidneys and in the other suppurations that were examined. In Case 4 the pleura was opened during life, and a *streptococcus pyogenes* associated with *staphylococcus pyogenes aureus* was cultivated from the fluid which escaped. In Case 5 pure cultivations of *streptococcus pyogenes* were obtained from pus from the knee, which was punctured during life. This case was one of erysipelas and pyæmia after removal of a carcinoma of the breast. In Case 6, a case of whitlow with metastatic abscesses, the patient recovered, and no streptococci were found. Thus, in six cases of metastatic pyæmia *streptococcus pyogenes* was found five times, partly in the blood and partly in the metastatic deposits, *and twice in company with staphylococcus pyogenes aureus*.

Baumgarten also found the *streptococcus pyogenes* in the internal organs in pyæmic cases, and Eiselsberg found *streptococcus pyogenes in company with staphylococcus pyogenes aureus in the blood of cases of septicæmia*.

Congenital syphilis.—Kassowitz and Hochsinger found the presence of a streptococcus in the tissues and internal organs, and especially in the bloodvessels, in fatal cases of congenital syphilis. These observers regarded their discovery as having an important bearing on the etiology of syphilis, but Kolisko pointed out that it was only the result of septic infection with presence of *streptococcus pyogenes*, as had already been established in scarlet fever.

Idiopathic cerebro-meningitis.—From the meningeal exudation of a case of apparently idiopathic cerebro-meningitis Banti found by Koch's methods the presence of *streptococcus pyogenes* and *staphylococcus aureus* and *albus*. The cocci probably entered through an abscess of the jejunum.

Blepharadenitis and phlegmonous dacryocystis.—Widmark isolated by cultivations *streptococcus pyogenes* and other organisms from these diseases. In phlegmonous dacryocystis Widmark found *streptococcus pyogenes* almost exclusively.

Fatal case of leukæmia.—Flugge cultivated a streptococcus from necrotic patches in the spleen of a fatal case of leukæmia. Cultures corresponded very closely with *streptococcus pyogenes*. Inoculation in the ears of rabbits produced similar results to *streptococcus pyogenes* or *erysipelatis*. Flügge calls it *streptococcus pyogenes malignus*, but concludes that it is probably identical with the streptococcus from pus.

Earth.—Nicolaier, and later Guarneri, isolated a streptococcus from soil. Microscopically it could not be distinguished from other streptococci. Baumgarten is of opinion that it is neither in form nor in cultivation to be distinguished with certainty from *streptococcus pyogenes*.

Air.—Emmerich succeeded in proving the presence of chain cocci in the air of a hospital where erysipelas had broken out. These cocci in their form, their characters on cultivation, and in inoculation results were identified with the *streptococcus erysipelatis*.

Various rotting substances.—Baumgarten states that in the most various substances undergoing putrefaction streptococci are always found, which morphologically are exactly similar to the *streptococcus erysipelatis*. Baumgarten, therefore, regards it as quite possible that the *streptococcus erysipelatis* or *pyogenes* is essentially a saprophytic organism—that is to say, an organism which may be found wherever there is decaying organic matter,—and that its parasitism is only incidental.

NATURE OF CONTAGIUM IN THE EXANTHEMATA UNDETERMINED.

I think, therefore, that the results of these numerous investigations constitute a mass of evidence in support of my opinion that in a disease which is accompanied with a lesion of the skin or mucous membrane, and in which the blood and tissues are profoundly affected by the virus of that disease, micro-organisms may gain an entrance into the circulation and escape destruction. The occurrence, therefore, of *streptococcus pyogenes* in diphtheria, scarlet fever, vaccinia, variola, measles, typhoid fever, &c., must be regarded as a secondary result, and associated with septic or pyæmic complication; and I am forced to the conclusion that, excepting negative evidence, bacteriology has not assisted us in the least in the determination of the real nature of the morbific agent or actual contagium of the exanthemata. That there are certain diseases which are due to micro-organisms is, I am sure, accepted by all modern pathologists, but we are far from having solved the nature of the contagium of all communicable diseases. In many cases, as in hydrophobia, where bacteria have been brought forward as the specific agents, they have been gradually substituted by the less definable term *virus*. Misapplied bacteriology will be both misleading and mischievous, and this criticism is applicable if a micro-organism is maintained to be the actual contagium of a disease, such as scarlatina, in the face of obvious fallacies, and without affording the evidence which is usually regarded as necessary for admitting a causal connexion.

(To be concluded.)

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ERGOTININ IN A CASE OF HÆMOPTYSIS.

BY JOHN COCHRANE, L.R.C.P. & L.R.C.S.E.,
MEDICAL OFFICER OF THE PARISH OF STRATH, SKYE.

I AM anxious to bring under the notice of your readers an incident which happened in my practice lately, and I should be glad to know whether the case which I am about to relate has happened previously.

I was called to see a middle-aged married woman residing near me, and found her confined to bed and suffering from an attack of pretty severe hæmoptysis. She had been seized with this illness three days previously to my being called in, and, judging from the statements of her husband, she must have lost a considerable quantity of blood. I found her in a weak state and coughing continually, and each time ejected a large amount of bright blood mixed with expectoration. There was no feverishness, but, owing to the coughing, she had been unable to retain much, if any, food in her stomach. Thinking this a favourable case for the administration of ergotinin, I immediately gave a hypodermic injection over the chest, and as soon as this had been done my patient suddenly went off into a state of syncope, and had all the appearance of having suddenly expired; her face assumed a death-like appearance, and I could feel no pulse at the wrist. I immediately slapped her face with cold water, and rubbed her chest. At the same time I told her husband, who was in the room, and who was in a terribly frantic state, to bring me some brandy or whisky, and also to get some bottles filled with hot water to apply to her feet and legs. Waiting the result anxiously, I was glad to find her beginning to show signs of returning animation, and after a while she gradually opened her eyes. The colour also began to return to her face and lips, and then in a few minutes further she vomited freely a quantity of half-digested food mixed with bile. She recovered entirely, and the cough disappeared as well. The bleeding from the lungs also was entirely stopped, and not a drop appeared after the injection. There has been no return of cough or hæmorrhage since then, now several months ago, and the patient is going about seemingly in very good health. When called to see her, I found beside the bed a vessel half filled with bright-red blood. There is a history of phthisis in her family, several brothers and sisters having died of this disease, and she is the last surviving of the family.

Now, I would like to inquire what was the cause of the sudden attack of syncope in this case following so closely

the injection of the ergotinin. Was it in any way due to the drug, or was it the result of fright reacting on a highly nervous and weakly female? I am not quite able to come to a proper explanation of the case, but I am inclined to regard the alarming symptoms as due to the toxic action of ergot. Undoubtedly this drug sometimes gives rise to considerable nausea, and such may have been its action in this case. I should like the matter to be explained, as I am not quite satisfied that we can safely use this drug in every case of hæmorrhage. The dose administered was 1-150 gr., and was in the form of a tabloid.

CASES OF DISEASE COMMUNICATED TO HUMAN BEINGS FROM THE COW.

By H. MALLINS, A.B., M.B., M.CH. UNIV. DUB.

ABOUT six weeks ago five of Mr. P——'s children began to complain of sore mouths, characterised by the appearance of small blister-like vesicles on the tongue and mucous membrane of the mouth. The milk, of which they partook freely, being suspected to be the cause of the mouth affection, an inquiry elicited the fact that one of the cows was suffering from a "humour" all over its body. The man in charge of the cow describes this rash as having presented the appearance of small red pimples, and as having been of a dry nature, except in the case of one small vesicle of the size of a threepenny piece which appeared on one of the teats. This vesicle dried up in a day or two, and did not seem to cause any inconvenience to the animal, whose health seemed so little the worse that the man did not think it worth while to inform his master of the appearance of the rash. The cow was at once isolated, and its milk having been kept separate from that of the other cows, it was noticed to have a distinctly greyish colour, "as if ink had been mixed with it." Later on the animal's skin desquamated freely. It is now in good health. The mouth affection yielded to treatment in a few days. Three weeks later, however, the sufferers from it began to display a peculiar skin affection in different parts of their bodies. Each spot began like an ordinary small boil, with red areola and elevated head. The head, however, instead of being yellow, was formed by a tiny flat vesicle with limpid contents. This vesicle daily increased in size until the third or fourth day, when the contained fluid changed to a white semi-solid pus, which by its accumulation detached the epithelial covering of the vesicle, leaving a raised ulcer-like sore, over which the pus dried into a firm crust, on the falling off of which the skin was found to be cicatrised, a smooth dark-red stain marking the site of the vesicle. The number of vesicles was limited, varying in the different cases from two or three to two dozen. Their size varied from that of a split pea to that of florin. The children became rather weak and anæmic while suffering from the eruption, but there was no marked constitutional disturbance.

Remarks.—There can be but little doubt that these children were the subjects of milk-communicated disease. It would appear that the milk, having had in the first instance a locally irritant action on the mucous membrane of the mouth, conveyed the germs of a disease which, after an incubatory period of at least two weeks, manifested itself in the shape of a vesicular eruption. There is a considerable degree of likeness between this eruption and that described by Professor Crookshank in his paper on the Hendon Cow Disease as having occurred amongst some of the milkers of "an infected herd." It is noteworthy that in the above cases the disease in the cow took chiefly the form of a red rash, while in the human being it displayed a vesicular nature.

ADMINISTRATION OF COCAINE INTERNALLY IN REFLEX VOMITING.

By MATTHEW CURSHAM CORNER,
VISITING MEDICAL OFFICER TO THE LYING-IN HOME, SHADWELL.

ON Oct. 3rd, 1887, I received an urgent message to visit a lady living in the north of London, she having been ill for some days. On my arrival I found her to be in an exceeding prostrate condition, suffering from incessant vomiting and distressing retching, and unable to retain even ice-water. I prescribed a freshly prepared mixture of bismuth, also ordered small pills of carbolic acid (one grain each). I saw her again that day, and finding her condition worse I discontinued all nourishment and medicines by the mouth, and ordered counter-irritants over the epigastrium and nutrient enemata. The following day she was much weaker, the distressing retching continuing. Becoming anxious, I decided on having a second opinion; but before doing so, and having my hypodermic case with me, I gave her five minims of a 20 per cent. solution of cocaine in a teaspoonful of cold water, taken slowly. The effect was decisive. She went off into a calm sleep for over two hours, awaking with a slight feeling of nausea. I then left, leaving three doses of the same quantities to be given according to symptoms, with intervals of two or three hours. Being busy, I did not see her until late the following day, when I found her considerably improved.

My object in reporting this case is to ask if the relief afforded was due to the cocaine, or to nature causing profound exhaustion followed by refreshing sleep? I attributed the vomiting to dysmenorrhœa, possibly enhanced by stimulants taken to relieve pain, and that the pain was doubtless relieved by the flow which occurred at the beginning of her illness. As far as my experience goes, this is the first instance in which I have administered cocaine internally. In my maternity practice I use suppositories containing three grains each of cocaine, and have found great relief experienced in those cases undergoing the agonising pains common to the latter part of the first and beginning of the second stages of labour. Under my direction, the lady superintendent of the Shadwell Lying-in Home, has used them in cases of primiparæ, with happy results.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

NEPHROTOMY; CALCULI THRICE REMOVED; ULTIMATELY NEPHRECTOMY; RECOVERY OF THE PATIENT.

(Under the care of Mr. BERKELEY HILL.)

THE remarks which are appended to this case indicate the principal points to which we would draw attention in the clinical history, and it is rarely that we can give this so completely. The patient is now, we are informed by Mr. Berkeley Hill, gaining in weight, and is in good health, although the continued presence of albuminuria makes serious disease of the right kidney probable.

M. W——, aged twenty-seven, labourer, was admitted on Nov. 25th, 1886. He complained of having had pain in the left side for fifteen years. The pain at first was felt daily; then became less and less frequent, till it was felt only at intervals of three or four months. The pain was always referred to the same spot in the loin, occasionally shooting to the testicle, and was of agonising severity. Micturition did not affect the pain, nor did it increase in frequency. During the last fortnight before admission the pain had been continuous, occasionally with nausea and faintness during a severe spasm. For six months there had been a deposit in the urine, but never blood. Now the urine has about 1-28th of a granular deposit; no blood nor stringy mucus. It is acid, sp. gr. 1011, with traces of albumen, and 1·6 per cent. of urea. After ten days in hospital the urea increased to 4 or 4·6 per cent. Fulness could be felt in the left loin on deep inspiration by the fingers placed below the last rib. This pressure causes pain at the seat of the spasmodic pain long felt.

On Dec. 1st the left kidney was reached by a lumbar incision. It was small and very firm to the touch. The exploring needle immediately struck a stone. The kidney was incised, and the stone removed with the finger from a calyx. No other calculus was discovered by the finger or by the needle. The pelvis and calyces were not obviously

enlarged. The operation was done under the carbolic spray, and the wound was syringed with 1 in 40 carbolic water and dressed with carbolic gauze. In the first twenty-four hours the patient was sick twice. His temperature rose to 104·4° at 10 A.M. on the second day, and the urine passed per urethram became dark olive-green on exposure to light. The dressings were then changed to German peat moss, and the lotions to boracic water, whereon the temperature fell to 101°, and his general state improved considerably. The stone removed on Dec. 1st was of uric acid, laminated in structure, and consisted of three processes connected by narrow necks, with a small central portion. One of these processes was roughened, where a small portion had been broken off and lost.

The further progress of the case was of steady improvement. The German peat moss proved an excellent absorbent for the urine, keeping the patient dry and preventing any decomposition of the absorbed fluid. The dressing thus needed renewal only once in twenty-four hours, though more than a pint, often a quart, of odourless pale urine could be squeezed from the peat moss after its removal from the bandage. The sinus never closed, and when attempts were made to discontinue the drainage tube, irritation, pain, and rise of temperature always followed these experiments. On March 23rd a calculus which had been detected previously was sought for through the sinus enlarged for that purpose, but unsuccessfully. In the next few days symptoms of renal colic appeared, with pain along the penis to the glans. Thenceforth the temperature rose nightly to 101° or 101·6°. The patient had a troublesome cough, and lost flesh rapidly. On June 8th eleven small calculi were extracted through the sinus, each resembling in shape and size a small dried pea. On June 22nd a large irregularly shaped calculus was withdrawn, weighing forty grains. The patient improved greatly after this operation. His temperature fell and he regained some flesh. On June 24th several minute calculi were found on the dressing, and more were washed out by syringing the sinus. Similar calculi were passed at intervals during July. In August he went to Eastbourne; then his temperature was normal, and the urine had only traces of albumen and from 2 to 3·5 per cent. of urea. In October, 1887, he was readmitted into hospital. He was much thinner than in July. There was much fetid discharge from the sinus in the loin, although no stones had been passed for several weeks. The urine passed per urethram was as follows: weakly acid; sp. gr. 1010 to 1012; urea only 0·9 per cent.; albumen one-half to one-fourth; muddy, with deposit of urates or phosphates, mucus, and pus; no blood.

On Oct. 26th, 1887, the kidney was removed by dividing the scar of the first operation, incising the capsule, and stripping it from the kidney. Next, the pedicle containing the renal vessels, which was very thick and firm, was tied with carbolised silk. The kidney was then snipped off with scissors from the pedicle. The renal artery spouted freely. A carbolised silk ligature was applied, but broke twice with the strain necessary to compress the vessels. Ultimately a stout ligature of hemp held all secure. This ligature had not been purified, so its ends were left hanging from the wound. The cavity was well sponged with solution of zinc chloride, forty grains to the ounce, and drained by large tubes. The reaction after the shock of the operation was moderate. The wound, unless dressed twice daily during the first week, would be fetid. On Nov. 7th the ligature came away, and then the wound rapidly healed. The urine became acid on the fourth day after the operation, and the urea increased from 0·6 to 1·2 per cent. in that time, but the albumen also increased from one-fourth to one-half or even two-fifths.

When the patient left the hospital early in December, he was in most respects in good health. The urine was acid, sp. gr. 1015 to 1010: slightly turbid from mucus, with 1·5 or 2 per cent. of urea; but the albumen was still about one-fifth.

The parts removed consisted of the whole kidney and some calculi. The kidney was much sacculated by dilatation of the pelvis and calyces; but each sacculus was surrounded by cortical substance, the medullary substance having been absorbed under pressure. The thickness of the cortical substance varied between a quarter and half an inch. The sacculi were full of fetid pus and urine; in several were calculi of different sizes. The five largest and six smaller ones were preserved, but several small ones, probably a dozen, were lost during the operation.

Remarks.—The history of this case has several interesting features. In the first instance, the symptoms were limited to paroxysmal pain for fifteen years. The patient never in his recollection had irritation of the bladder or bloody urine. Again, when the persistence of pain in one loin, deep-seated fulness and tenderness at the painful spot, and absence of symptoms connected with the bladder led to the diagnosis of calculus in the left kidney, the existence of numerous calculi was not discovered at the first operation, in spite of careful digital and needle exploration. This shows that these means are insufficient for ascertaining the number of calculi in the kidney. The condition of the kidney after removal indicated that probably many calculi existed at the time of the first operation, though the great increase in size of the organ during the ten months which intervened between the first and last operations showed that the saccular dilatation had made little way before the first calculus was extracted. It is remarkable that, while innumerable mustard-seed-like calculi escaped from the kidney through the wound, none were ever detected in the urine from the bladder, nor did any of the larger pea-like forms enter the ureter.

The prognosis now depends on the state of the remaining kidney. The large amount of albumen which remained while the patient stayed in hospital, though in other respects his recovery was rapid and complete, makes it probable that the long delay which took place between the first operation and the removal of the kidney allowed chronic inflammation to prevail over a large portion of the organ, and thus seriously to diminish the patient's probability of a long life. The practical inference to be gathered from the result would seem to be that if the sinus left after nephrotomy does not close completely in about three months, the kidney should be explored by laying open freely the pelvis, and, if found to be sacculated, it should be at once removed.

WOOLWICH UNION INFIRMARY.

SECONDARY CANCER DISSEMINATED THROUGH THE LYMPHATICS.

(Under the care of Mr. JAMES MATTHEW CAW.)

THE following case is remarkable in the fact of nearly all the lymphatic glands of the trunk being secondarily affected by cancer.

Rebecca G——, aged fifty-two, was admitted on Nov. 23rd, 1887. She complained generally of weakness, palpitation, pain and vomiting after eating, gradually increasing emaciation, and of lumps in both axillæ and groins. She has had nine children. A sister died after an operation for cancer of the breast, and a brother probably from cancer of the liver. About fourteen months ago she became conscious of the formation of small lumps in the abdomen towards the left iliac region. Soon afterwards the abdomen became greatly swollen, and was tapped two months later, and, according to her own statement, thirty-six pints of fluid were removed. Seven days after this she underwent an operation at the Samaritan Hospital, and a tumour was removed through a central abdominal incision. She was told that the operation should have been performed sooner, but that the whole of the growth had been removed, and was unlikely to return. The wound healed up in six weeks, but since the operation she has always been more or less subject to pain and sickness after eating.

State on admission.—Emaciation is very marked. The tongue is clean, but covered with a sticky saliva, and she usually complains of thirst. A cicatrix, the seat of the operation referred to, extends from the umbilicus to the pubic symphysis. In each axilla is a glandular lump, about the size of a hen's egg, movable and lobulated. Underneath the skin of the chest are many small nodules, varying in size from a very small pea to the size of a bean. Over the smaller of these the skin is red and discoloured, and the nodules in many cases are felt to be connected by hardened tortuous lines, probably infected lymphatics, which over the fifth right costal cartilage give the tortuous appearance of a subcutaneous varix. A movable subcutaneous nodule, the size of a bean, is situated over the hepatic region in the right hypocondrium. These nodules give rise to little or no pain. Extending into the abdomen from Poupart's ligament on either side are other large glandular masses. The superficial cervical glands are very slightly, if at all, affected; but there is a small mass above the left clavicle, in the

region where the thoracic duct enters the internal jugular vein. The glands near the internal condyles of the humeri are not affected.

The patient died about a month after admission, the nodules having increased in number and emaciation having progressed very rapidly.

At the necropsy, made by Dr. Boulter, in addition to the appearances already mentioned, the tortuous masses which occurred subcutaneously on the front of the chest were seen on section to consist of swollen dilated lymphatics, containing a whitish fluid. A small cancerous mass occupied the region of the thymus gland, and was adherent to and partly involved the sternum and second left costal cartilage. The heart and lungs were healthy; the posterior mediastinal glands were much enlarged, and apparently infected with a soft cancer, which towards the centre was caseous and degenerated. The intestines showed no sign of peritonitis, but were peppered over with a black deposit, not removable by washing, probably the result of the escape of blood into the abdominal cavity during the laparotomy; the remains of what appeared to be the pedicle of the tumour which had been removed were seen attached to the broad ligament; the lumbar glands formed a lobulated mass weighing eight or nine ounces. Three round cancerous masses, not so hard as scirrhus, occupied different regions of the liver. The uterus, kidneys, and spleen were all apparently healthy. The brain was not examined.

Microscopical examination.—The nodules in the liver, which were round on section and about the size of walnuts, presented the ordinary appearance of a carcinoma, intermediate in character between scirrhus and encephaloid, the alveoli and their contained cells being very clearly marked. In the nodule mentioned as lying subcutaneously in the hepatic region the cancer was softer and more encephaloid, the stroma being less in quantity. The infected glands were seen to consist of a cellular substance, undergoing in many places fatty degeneration and caseation, stroma being almost entirely absent. On section of such a gland, several little new outgrowths were observed springing up in the capsule of the gland. Microscopical examination of the semi-fluid matter found in the centre of many of the infected glands showed the presence of numerous oil globules and fatty lymphoid cells and corpuscles, also many small masses of broken-down lymphoid tissue, but no special appearance of cancer elements.

Remarks by Mr. CAW.—The case is noteworthy on account of the acuteness and virulency with which the cancer poison invaded the lymphatics, and is, so far as I can learn, unique in the number of glands affected. Although numerous staining reagents were used, no micro-organisms were found.

LEEDS GENERAL INFIRMARY.

SUCCESSFUL OPERATION FOR FÆCAL FISTULA, IN A FEMALE PATIENT WHO HAD BEEN THRICE TREATED FOR STRANGULATED INGUINAL HERNIA.

(Under the care of Mr. MCGILL.)

For the notes of this case we are indebted to Mr. Green, house surgeon.

Isabella S——, aged forty-one, was admitted on May 2nd, 1887, suffering from a fæcal fistula in the situation of the right external abdominal ring of seventeen years' duration, and with the following history. When nineteen years of age, patient ruptured herself in the right inguinal region. She went about for five years without a truss, the protrusion being all the time reducible, and then the hernia became strangulated while the patient was lifting a tub. She was taken to a London hospital, where the hernia was reduced by operation. She left the hospital three weeks afterwards, wearing a truss, but with a small opening in the inguinal region discharging fæces. For nine years the hernia remained reducible, but was kept back with difficulty by a truss. The sinus also remained open. At the end of that time the hernia again became strangulated, and the patient was again operated upon at the same hospital. The hernia was reduced, but the fistula increased in size, and for six weeks all the motions were passed through it. Fæces then began to pass by the rectum, and soon very little came through the wound. At the end of three months she left the hospital with a hernia as large as a fist, reducible, but incapable of being kept back by a truss, and with two sinuses, discharging a small quantity of fæces. About two years ago the patient began to suffer from menorrhagia, and a year last November this was cured by the removal of a polypus from the uterus. Last January, during a fit of coughing, the hernia again became strangulated, and was again operated upon. She states that an attempt was made at the same time to close the fistula, but upon the first dressings being removed fæces were found to be coming from the wound. The patient stayed in the infirmary, where the operation was performed for four weeks, and then left with a large fistula through which all the motions passed.

On admission into the Leeds Infirmary, the patient complained of the great annoyance caused by a fæcal fistula in the right groin, about an inch in length, in the position of the external abdominal ring. All the motions had come through this opening for the last three months. A hernia about the size of a fist came down when the patient stood up, and into this the fistula opened. Patient had no control whatever over the motions. It was decided to attempt to close the fistula. On the day before the operation the bowels were well cleared by a dose of castor-oil, and an enema was injected into the fistula on the morning of the operation.

Operation.—On May 9th an incision was made round the fistula close to its edge down to the adhesions connecting the bone with the parietal peritoneum. These adhesions were dissected and torn through, and the affected portion of the bowel was drawn out of the wound. The fistula was then found to involve about half the circumference of the gut. The edges of the fistula were then pared and brought together by means of Lembert's suture. Chromicised gut was used. The gut was then returned into the peritoneal cavity. The opening into the peritoneum was then sutured, and a set of deep silver sutures was used to draw together the pillars of the external abdominal ring. The superficial parts were sutured by means of gut stitches. A tube was put in to drain the superficial parts. The wound was dressed with gauze, iodoform, and salicylic silk.

No vomiting occurred after the operation. Milk and ice were given. The wound was dressed and the tube removed on the third day. The patient passed flatus per rectum on the same day. On the ninth day the bowels were moved by the rectum after the administration of an enema. The deep parts had united, but superficially the wound was healing by granulation. On the twelfth day antiseptics were discontinued. On the sixteenth day she was given fifteen minims of liquid extract of cascara sagrada, after which the bowels were moved twice. On the eighteenth day the patient was able to sit in a chair. Subsequently she progressed rapidly. The bowels were moved naturally every day. During the fifth week one of the silver sutures had to be cut down upon and removed. The patient left hospital on the forty-fifth day after the operation. She afterwards stated that she was quite well, and able to do ordinary house work.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Cow-pox.—Carcinoma of Bile-duct.—Abscess of Brain and Adenoma of Pituitary Body in a Ewe.—Cystic Squamous Epithelioma.—Charcot's Joint Disease.—Hendon Cow Disease.

AN ordinary meeting of this Society was held on Tuesday last, Sir James Paget, Bart., F.R.S., President, in the chair. The controversy on the Hendon Cow Disease and Cow-pox was continued by the meeting being prolonged till half-past ten.

Dr. KLEIN, F.R.S., said that on December 15th Dr. Crookshank showed a calf in which he had produced cow-pox. Several persons had expressed doubt. He now showed the same calf inoculated on Thursday last from the calf with typical cow-pox. Another calf also took cow-pox. In calves Nos. 3 and 4 (Crookshank) the results were spoilt by insufficient experiment, for Warlomont's stored lymph was used in No. 3, and therefore not reliable; in calf No. 4 it was doubtful whether the inoculation from the child's arm (human lymph) did really take, and so this specimen was spoilt for further experimentation. He also presented the following table showing the inoculations of the so-called cow-pox:—

TABLE SHOWING THE INOCULATIONS OF THE SO-CALLED COW-POX.

WILTSHIRE BOY.

Calf 1.	Calf 2.	Calf 3.	Calf 4.		
Did not take.	Did not take.	Took.	Took.		
			Calf 5.	Calf 6.	Calf 7.
			Took.	Did not take.	Took.
					Exhibited at the Pathological Society on Dec. 15th and on Jan. 17th.

Calf 3 was further inoculated with Warlomont's lymph, but did not take.
Calf 4 was further inoculated with human lymph in six places. Result doubtful.
Calf 5 was further inoculated with cow-pox at Lamb's Conduit-street Animal Vaccination Station. Took well.
Calf 7 was further inoculated with cow-pox at Lamb's Conduit-street Animal Vaccination Station. Took well.

DR. NORMAN MOORE showed specimens of Primary Carcinoma of the Common Bile-duct. The first case was that of a man aged forty-four; the section through the wall of the common duct, about half-way between its commencement and its terminal orifice, seemed to show the development of the carcinoma from the large flattened epithelial cells of the duct, and as it extended outwards into the duct wall the cells appeared in the meshes of well-developed but not very dense stroma. The liver was only slightly affected at a few isolated spots, and only for a very short distance; the lumen of the duct was enlarged and the surface faintly bile-stained. There was no general dilatation of the ducts in the liver and no cirrhosis. Jaundice and emaciation were prominent symptoms; all the other organs were natural. The second case was that of a woman aged sixty-three. The microscopic section shown was made through a dense whitish mass of new growth, which occluded the common and the cystic ducts; it was epitheliomatous. The gall-bladder was occluded, being adherent to the walls of a small hydatid cyst containing caseous material, but its fundus was devoid of growth. There were no deposits in the liver; the bile-ducts were dilated throughout the liver, which was cirrhosed and dark-green in colour. No secondary growths were found in any other organ. Pain, jaundice, emaciation, and hepatic enlargement were the chief symptoms of the disease, which extended over two years, the last six months the symptoms being severe. In the man the diagnosis was difficult, and impossible without microscopic examination; it might have been passed for chronic catarrhal jaundice.

Mr. W. K. SIBLEY showed specimens of Abscess of Brain and Adenoma of Pituitary Body in a Ewe. The animal had become apathetic, ill, blind, and deaf for some time. It was killed, and the post-mortem examination revealed pleural adhesions and small nodules of consolidation in the lungs, and a large abscess in the right cerebral hemisphere; there was also general meningeal inflammation. The nodules in the lungs were due to nematode worms (strongylus filaria), such as were frequently present in the lungs of sheep. The bronchioles contained vegetable tissue. The pituitary body had all the appearances of adenoma. The lungs also contained small abscesses. He discussed the mode of origin of the cerebral abscess, and rejected the theory of pyæmia, and suggested that this was the primary lesion, and that it had been set up by disease of the cranial bones which had been found after death. The morbid condition of the central nervous system may have disturbed the normal correlation of nerve influence between the brain and the pulmonary tissue, lowering the vitality of the latter; this lowered vitality permitting the breaking down of the consolidation produced by the parasites, which on this theory would be attributable, not to pyæmia, but to a trophoneurosis. Mr. Sibley also commented on the rarity of the tumour of the pituitary body.—Professor BROWN said that it was common in the lungs of sheep to find parasites as nodules mistaken for tubercles, till in 1858 he demonstrated the presence of a worm which some regarded as Gordian worms. The presence of vegetal tissue might be accounted for by the death spasm with its sudden gasp; a deep inspiration at the moment of the animal's death might account for many curious objects which might be discovered by microscopists in the air passages.

Mr. SYMONDS read notes and showed microscopical sections from a case of Cystic Squamous Epithelioma of the Neck. The patient, a man aged fifty-six, was admitted into Guy's Hospital in August, 1883, with a tumour in the right side of the neck. It extended from the angle of the jaw to the middle of the thyroid cartilage, and from the sterno-mastoid to half an inch across the median line. It was connected with the thyroid cartilage, and over the centre the skin was adherent, but otherwise the tumour was fairly movable. It was freely circumscribed, and gave an indistinct sense of fluctuation; there was no evidence of nerve implication. No ulcer or growth was found in any part of the mucous membrane of the mouth or pharynx, so that the growth was considered to be a sarcoma. The brawny condition of the implicated skin, the position of the larynx, and the pain resembled more closely the epithelial growths. The mass was extirpated on Sept. 7th, the vertical elliptical incision including the infiltrated skin. It proved to be widely and closely adherent, and its removal involved the sacrifice of portions of most of the muscles in the submaxillary region, and one inch of the internal jugular vein. The pharynx and thyro-hyoid membrane were exposed, as well as most of the deep arteries and nerves. The growth proved to be a large thick-walled cyst filled with sanious fluid containing flakes of epithelial débris. There were also several enlarged glands. The wound healed without suppuration, but in four weeks recurrence had taken place to an extent rendering further operation useless. The wall of the cyst was five-eighths of an inch thick, white on section, and showed typical epithelioma microscopically.

Dr. COLLIER showed a knee joint affected with Charcot's disease; the patient died in general paralysis, and had locomotor ataxy when seen in the Radcliffe Infirmary on Aug. 25th, 1885, when she was ataxic, and had anæsthesia without knee jerks. The left lower limb was swollen, and also the knee joint, where the swelling began six months before August, 1887. The joint exhibited grating and increased mobility. The patient died in December, 1887. The crucial ligaments were completely destroyed; much new growth of bone was found on the posterior surface of the head of the tibia and the internal condyle of the femur.—Dr. ORMEROD asked if the nerves leading to the joint were examined, or if there was anything in the central nervous system to which the joint lesion could be attributed.—Dr. COLLIER said these parts had not been examined.

Professor CROOKSHANK before reading his paper (printed in full in another part) referred to the table given on p. 123. He thought it right to announce at once that the second remove of calves, one of which had been shown at the special meeting of the Pathological Society, had proved to be not protected. The explanation was obvious, as it had been vaccinated from the first calf in the stage of suppuration. In the two original calves successfully inoculated from the boy's thumb revaccination so far had entirely failed. Without being consulted, some of his results had been published, and one of his calves brought down to this meeting by Dr. Klein. He thought that an observer being allowed to give his version of another investigator's work before it was completed and published, and being allowed to show one of his animals, was an event unparalleled in the history of the Pathological Society. Professor Crookshank also showed a milker from Wiltshire, and asked the Society to compare the boy's hand with his (Professor Crookshank's) drawing. In connexion with revaccinating the calves, he quoted the following paragraphs:—

"The above experiments, however, will serve to show the greater difficulty of vaccinating the cow with humanised than with primary lymph, and that, when successful, a much milder disease is the result." "Vaccine lymph, in passing from the cow to man, undergoes a change which renders it less energetic on being returned to many individuals of the class producing it."—*Ceely.*

"The fluid contained in the vesicle in the advanced stages of cow-pox has undergone a certain stage whereby it is ren-

dered unfit for propagating this affection so as to give security from true small-pox, and this change is said to be marked by the puriform appearance which the fluid then assumes." "The areola is fully formed, and this is said to be a mark that the virus begins to be less active, and, therefore, improper for use."—*Bryce.*

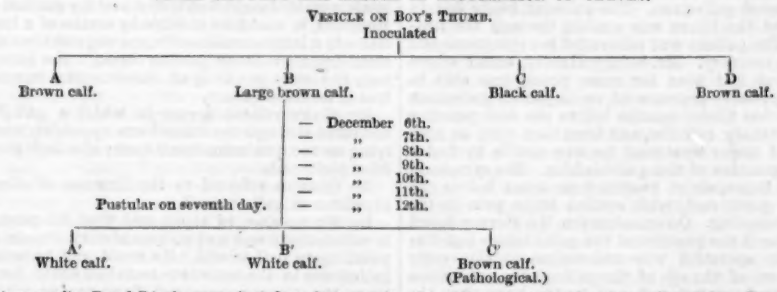
Dr. KLEIN said that it was impossible to believe that the calf shown on Dec. 15th by Dr. Crookshank really had cow-pox, because this calf three weeks later was successfully inoculated with normal lymph. In reply to the arguments about the streptococcus pyogenes occurring in all localities, he contended that though this was true, yet the organism obtained from animal and human scarlatina and from the experimental calf disease was *not* the streptococcus pyogenes, with whose appearance under all circumstances he was perfectly familiar. The kidneys in the Wiltshire cow disease showed genuine miliary abscesses, and the ulcers of the skin were microscoped in the second week of their development; whereas the Hendon ulcers only lasted one week, and in the Hendon cows there were no ulcers in the second week; comparison between the two diseases was therefore out of place. In the Wiltshire cow the disease and ulceration progressed altogether more slowly, and when inoculated in the calf the resulting eruption reached its height on the fifth day, whereas the inoculation from the Hendon cow disease only began to appear on the fourth to the fifth day. A third disease occurred in cows at Edinburgh, and this differed from the other two forms. In the Hendon and Edinburgh cows the disease, when inoculated, caused well-marked changes in the lung, but this did not occur in the Wiltshire cases, so the three diseases were on a different footing. Their symptoms and progress were not identical, and hence it was gratuitous to say that they must be all the same disease.

Dr. COLLINS gave an account of his visit to the Wiltshire farm, and said that the milkers declared the disease to be rather rare, and that it was certainly not "bad quarters" or "chapped teats." The traditions current on the farm tallied exactly with those given by Ceely and Jenner.

Dr. THORNE THORNE described the history of the present confusion on the subject. He said that Professor Brown, in writing of the Hendon cow disease, adopted Professor Axe's report, that the disease was so common, so well known, and so seldom absent. It must be considered as very strange, therefore, if it were really cow-pox, that a systematic inquiry on the part of Dr. Buchanan (in which he sought the aid of veterinary and other experts for a supply of lymph from undoubted cow-pox wherewith to start the calf vaccine station in 1880) actually failed to discover the existence of a single case in any part of the country. The Wiltshire disease, it was said by everyone except Dr. Collins, was very common. In the boy shown by Dr. Crookshank typical primary vaccination marks were alleged to exist on the arm; the back of the hand did not exhibit typical scars, and could hardly be true cow-pox. Referring to the calf shown at the special meeting, and recently successfully reinoculated, he said, with Dr. Cory, that it was impossible to have two successful inoculations with true vaccinia within three weeks of each other. At present the whole matter was extremely confused, and no precise evidence existed on which to form a clear judgment. The only etiological research of precision and value was that of Mr. William Henry Power and Dr. Klein in regard to the Hendon cow disease; Mr. Power traced the outbreak of scarlatina in St. Pancras to the milk, to certain sheds, to certain cows, and then to cows with a certain disease, and this outbreak continued day after day and week after week, so that it was impossible to ascribe it to accidental infection of the milk by people not even having the infection themselves, but merely living where there were cases of scarlatina, and then visiting the sheds at the farm whence the milk came. He thought that the sooner the discussion on such confused data came to an end the better. With this opinion Prof. Brown also concurred. —Dr. PRINGLE said that his thirty years' experience in India led him to believe that cow-pox was not small-pox modified by its passage through the cow, and he believed that true vaccinia is a very rare disease.—Dr. CORY considered there was nothing characteristic about the scars on the back of the hand of the boy exhibited by Professor Crookshank.—Professor CROOKSHANK, in reply, said he had never said that the cow-pox was very common; in Wiltshire there was some evidence of its being a rare disease. Government inquiries might very likely be unsuccessful in finding out the existence of cow-pox on farms, seeing that the interests of the trade demanded that such epidemics should be kept secret. He had shown the boy for comparison with the drawing and to show that the eruption had the characters required by Jenner; the spurious form of the disease, according to him, never ate its way into the flesh. The calves had shown typically retro-vaccinia, as described by Ceely, and this he had explained at the special meeting.

Sir JAMES PAGET suggested that the best course would be that "the Bill be read again that day six months."

TABLE SHOWING THE RESULT OF INOCULATION OF CALVES.



A, D, A', no result. B and C took; revaccinated; so far no result. B' and C' vaccinated with pus; result pustules. Revaccinated; not protected.

CLINICAL SOCIETY OF LONDON.

Medical and Surgical Treatment of Gall-stones obstructing the Intestines.

THE annual general meeting of this Society was held on the 13th inst., Dr. W. H. Broadbent, President, in the chair, when the officers and new members of Council for the ensuing year were elected.

Dr. MACLAGAN read the notes of two cases of Obstruction of the Bowels by large Gall-stones. In the first case, between the middle of July and the 6th of April the patient had four different attacks, each lasting from three to six days, all characterised by acute griping pain in the abdomen, sickness, nausea, and temporary obstruction. About a fortnight after the last attack the patient voided at stool first one, then another, then a third, and two days later a fourth gall-stone. The stones averaged about an inch in diameter. (Stones shown.) During the whole illness there existed a tumour about the size of the fist between the umbilicus and the liver, just to the right of the middle line, in the region of the gall-bladder. After the stones were voided there was no more severe pain, but constant nausea. The liver increased much in size all over, and very rapidly. The patient gradually sank and died. On post-mortem examination the liver was found to be very much enlarged, and fatty. The gall-bladder communicated with the duodenum by a free opening. There was much inflammatory thickness all round. A fifth gall-stone was found in the remains of the gall-bladder. In the second case there was a swelling the

size of a hen's egg in the region of the gall-bladder, tender on pressure. This suddenly decreased in size. Immediately succeeding this diminution there were developed symptoms of acute intestinal catarrh, followed in a few days by those of intestinal obstruction. The obstruction lasted for three weeks, and was then relieved. Treatment was by morphia and nutrient enemata. The patient gradually improved, and went on doing so for six or seven weeks, after which she again had recurrence of the old symptoms, with renewed obstruction, lasting for a fortnight. A third attack supervened. At the same time the temperature rose, and marked tenderness was developed over the region of the liver. The patient gradually sank and died. No post-mortem was obtained. After the first attack was over there was felt to be something in the right iliac fossa, causing tenderness on firm pressure, and preventing one from getting the hand freely into the fossa. This continued for a fortnight. The tenderness then disappeared. The hand could be pressed into the fossa. At the same time a hard lump was felt just above the crest of the right ileum. This was believed to be the stone, which had passed from the cæcum into the ascending colon.

Mr. CLUTTON read a case of Laparotomy for Obstruction from Gall-stone ending in recovery. This was a case of a woman of seventy years of age, in which the abdomen was opened on account of obstruction which was thought to be due to an impacted gall-stone. The calculus, being felt in the lower end of the ileum, was pushed through the ileo-cæcal valve. The patient was relieved of her symptoms and made a perfect recovery. Mr. Sidney Harvey, under whose care the patient had been for some years, was able to diagnose the probable presence of an impacted gall-stone from the fact that fifteen months before she had passed a large facetted biliary calculus, and from that time as long as she remained under treatment he was unable to find a tumour in the position of the gall-bladder. The symptoms of obstruction began, about twenty-four hours before the operation was performed, with sudden acute pain in the abdomen and vomiting. On examination, Mr. Harvey found that the tumour in the position of the gall-bladder had disappeared. The operation was undertaken at this early period on account of the age of the patient, the exhaustion that had already been induced, and in the hope that the stone, which was believed to be the cause of obstruction, could be pushed through the ileo-cæcal valve without opening the intestine. This proved to be the case, for the calculus was found close to the valve and movable. Some difficulty was experienced in pushing it through the ileo-cæcal valve in the colon, but, this having been overcome, the calculus was left to find its own way along the rest of the large intestines, and was passed naturally in five days after the operation. The calculus was pyramidal in shape, the base measuring $3\frac{5}{8}$ inches in circumference.

The PRESIDENT referred to a severe case of Intestinal Obstruction occurring in a woman ninety years of age, which proved fatal in a few days. He thought much encouragement was to be derived from Dr. Maclagan's first case; the disappearance of the swelling in the region of the gall-bladder when urgent symptoms appeared was important.

Dr. ORD related three cases of Intestinal Obstruction due to Gall-stones; the symptoms were generally violent in character. In the first case a stone was ultimately passed *per vias naturales*, and it resembled very much in size and character that shown by Dr. Maclagan. In another case, pain, vomiting, with signs of obstruction and peritonitis, led to a fatal issue; the stone was not larger than the top of the thumb, but yet tightly grasped by the inflamed tract of intestine; it had ulcerated through the gall-duct. In some cases the value of waiting and of the use of opium was conspicuous. In another case there were signs of acute obstruction in a lady at Isleworth; the surgeon performed laparotomy, and found an inflamed piece of intestine, but the gall-stone was not detected. In these cases there might be no history of pain or jaundice.

Dr. GIBBONS related a case of Biliary Colic, which subsided ten days before death. The sudden fatal issue was due to a gall-stone having ulcerated through the bowel, and was, he believed, a unique case of perforation of the bowel by a gall-stone.

Mr. ARTHUR BARKER showed a large gall-stone removed from the ileum after death. It measured four inches in circumference. It had caused complete obstruction, and though it could be pushed upwards from its situation, it could not be forced downwards towards the valve. He considered that there would be no danger in performing laparotomy with a view to crushing the stone by means of a long needle or even of opening the intestine, removing such a stone and suturing the bowel together after the approved fashion; such an operation could be performed with safety.

Mr. HEATH spoke of the value of systematic manipulation in cases of colic due to renal calculus, and this might be carried out also in cases of intestinal obstruction due to gall-stone. The abdominal walls should be thoroughly relaxed by an anæsthetic, and the bowels should also be deprived of their contractility, so as to enable the massage to be thoroughly performed and the stone so manipulated as to be moved onwards towards and through the ileo-cæcal opening. The results of operative interference were not very satisfactory.

Mr. KNOWSLEY THORNTON spoke of the success of Mr. Clutton, obtained under very adverse circumstances, and he contrasted this with the tedious and anxious waiting of Dr. Maclagan's cases. It would be a good general rule to call for such surgical aid when serious symptoms persisted. He spoke with approval of Mr. Lawson Tait's method of crushing the gall-stone *in situ* by means of a pair of padded forceps, and thought that this method could be applied with but little risk to the stone in the intestine, provided that the stone were dislodged first into a healthy portion of intestine. Moreover, it would be possible by means of a long needle to fracture a large stone into fragments, and thus allow of each small fragment easily passing through the ileo-cæcal opening; the mere pricking of the intestine in a healthy part was of no consequence.

Mr. GANT related a case in which a gall (?) stone had ulcerated through the vermiform appendix, and was found lying on the quadratus lumborum; this had caused rapidly fatal peritonitis.

Dr. GLOVER referred to the free use of olive oil in the expulsion of gall-stones.[1]

Dr. MACLAGAN, in reply, said that his cases were some in which there was no previous history of pain or jaundice pointing to gall-stones. He could not believe that these gall-stones in the intestines travelled about, for in his own cases the tumour remained fixed to one place for many days.

Mr. CLUTTON, in reply, said that he did not advocate laparotomy in all cases, but only in those in which there was but little chance of expulsion, and in those in which it would be perilous to delay an operation until the patient's strength was exhausted.

Dr. GLOVER proposed a vote of thanks to the retiring Vice-Presidents and members of the Council. He said, before sitting down he would say one word of criticism—he hoped not an ungracious one—on the new list of nominations by the Council. In itself it was excellent, and he had just voted for it in its entirety. But it had this defect: it contained the name of only one general practitioner, and that one not in the metropolis. He thought that, as the Society consisted so largely of general practitioners, it would be both wise and right to give them a few places on the Council. The respect for the nomination of the Council was absolute, and he was sure this omission arose from inadvertence.

The PRESIDENT, in reply, said he was glad Dr. Glover had noticed the absence of general practitioners from the nomination list, though one eminent exception was to be found there. The omission was, of course, quite unintentional, and would receive the attention of the Council in future.

The following is the list of officers and Council elected:—President: Dr. W. H. Broadbent. Vice-Presidents: Dr. W H. Dickinson, Sir Dyce Duckworth, Dr. J. Hughlings Jackson, Mr. J. Warrington Haward, Sir William Mac Cormac, Mr. Howard Marsh. Treasurer: Mr. Christopher Heath. Council: Drs. F. G. Dawtery Drewitt, J. Kingston Fowler, W. Baugh Hadden, Stephen Mackenzie, Angel Money, Isambard Owen, F. Charlewood Turner, W. J. Tyson, Samuel West, and W. Hale White; Messrs. Thomas Colcott Fox, W. Harrison Cripps, H. Trentham Butlin, Rickman J. Godlee, Cuthbert Hilton Golding-Bird, W. Appleton Meredith, C. W. Mansell Moullin, F. Shirley Murphy, Walter Rivington, and Charters J. Symonds. Honorary Secretaries: Dr. Thomas Barlow and Mr. R. W. Parker.

[1] Vide THE LANCET, vol. ii., 1887.

HARVEIAN SOCIETY OF LONDON.

Sporadic Cretinism.—Tubercular Arthritis of Ankle Joint.

A MEETING of this Society was held on the 5th inst., Edmund Owen, M.B., F.R.C.S., President, in the chair.

The PRESIDENT showed a case of Sporadic Cretinism, which had been sent to him by Dr. Davson; the child, aged five years and a half, had been born in the Hampstead district, of healthy parents. She looked about three or four years younger than her actual age. She had been weaned at three years, but was still fed from the bottle. Amongst the chief clinical features were the large mouth and protruding tongue and the absence of all trace of thyroid gland, the presence of diffuse tumours over the subclavian triangles, and of large and rounded limbs. The child could not walk or stand, neither could she speak. Reference was made to a valuable paper which was contributed nearly forty years ago by Mr. Curling on two similar cases, in which he suggested that the physical and intellectual defects in these children were probably due to absence of the thyroid gland depriving the economy of certain assimilation processes. Mr. Owen then referred to the work of Cocher, Ord, and Horsley upon the subject of cretinism, which he called the myxœdema of childhood. He was of opinion that the characteristic deposits in the neck, as also those which shrouded the muscles of, and thickened the limbs, were the result of mucoid infiltration of the subcutaneous tissue, and were not of the nature of fat. He concluded by calling attention to the importance of Mr. Horsley's vivesection experiments upon monkeys, by which it had been amply shown that the removal of the entire gland was likely to be followed by progressive myxœdema.—Mr. HORSLEY thought the case a striking example of the disease. With reference to the kind allusion of the President to his own work, he wished to mention that Monk of Berlin had challenged his results. As he would take another opportunity of replying to Monk's statements (which could be easily explained), he wished only to remark on what appeared to him to be the most pressing problems connected with the destruction of the thyroid in these cases. There are three forms of the one disease resulting from atrophy of the thyroid. They are: (1) Intra-uterine cretinism—child always born dead; (2) sporadic cretinism of childhood, in which there is early extra-uterine loss of the gland; (3) adult cretinism or myxœdema of middle life. Now, we are familiar in the last form with the congestion of the gland, its invasion by leucocytes, and its subsequent atrophy with destruction of the gland tissue; but we are ignorant of what like destroying changes occur in the thyroid in the first two forms. The solution of this question he desired to urge on the attention of pathologists. In conclusion, he agreed with Mr. Owen that the resiliency of the arms seemed more than fat of connective tissue would account for, but he thought we must be very cautious in estimating the amount or existence of mucin, for, as he had himself shown, this element in the case is wanting where the chronicity of the disease is notably increased.

Mr. QUARRY SILCOCK showed a case of a young man who was admitted to St. Mary's Hospital in June, 1886, suffering from tubercular arthritis of the left ankle joint, tubercular nephritis, and tubercular abscesses on the front of the sternum. After consultation he had amputated the leg in the lower third, and scraped the tubercular abscesses, the man's general condition greatly improving. The hæmaturia diminished in amount, the abscesses in front of the sternum cicatrised, and the stump had practically healed when the patient left the hospital. Subsequently, however, the stump was damaged by a fall, a tubercular periostitis of the upper third of the fibula resulting therefrom, which, although scraped and otherwise combated, was exceedingly intractable to treatment. Accordingly amputation through the condyles, after the method advocated by Sir Joseph Lister, was done in June, 1887, with excellent results, for although the nephritic symptoms (hæmaturia and lumbar pain) were at that time very marked, the wound healed with the first intention, the man being up on the eighth day after the operation. Mr. Silcock pointed out the apparent hopelessness of the case when first under observation, and cited it as exemplifying the now well-recognised doctrine that where several tubercular lesions coexisted, the removal of one tended to the amelioration of the symptoms attending the others. He remarked that at some time *in futuro* it might be thought advisable to attack the renal lesion, for the hæmaturia and pain attendant on it were becoming increasingly severe. He also pointed out the advantages of the method he had pursued in amputating through the condyles, the patient being able to rest the whole weight of his body on the end of the stump, and the cicatrix being placed well behind the sawn end of the femur.

Mr. VICTOR HORSLEY delivered an extemporary address on Trephining in Prehistoric Times at the concluding meeting of this session of the Harveian Society. He commenced with three propositions concerning the operation in the Neolithic Age, which he proceeded to maintain by the help of limelight reflections upon a screen; he also exhibited specimens of the flint instruments of the period.

EPIDEMIOLOGICAL SOCIETY OF LONDON.

Debate on Dr. Klein's paper on some Diseases common to Man and the Lower Animals.

THE PRESIDENT (Dr. R. Thorne Thorne), in announcing that Professor Brown had kindly undertaken to open the discussion, said that no less than ten diseases had been referred to by Dr. Klein in his paper, and he hoped that in the debate some attention would be given to each of them.

Professor BROWN said that before the President had made his opening observations he had resolved to endeavour to allude to each of the diseases Dr. Klein had mentioned in his paper. He would, in the first place, like to divide the diseases common to man and the lower animals into two classes or series—(1) those in which there was a general resemblance or identity of the symptoms in man and animals; and (2) those in which the symptoms and appearances in animals did not resemble those in man. He wished to call the attention of the meeting to the fact that the risk to man of catching these diseases of animals was usually very slight. Take, for instance, glanders or foot-and-mouth disease. Glanders was, of course, sometimes, though very rarely, caught by man, notwithstanding the great carelessness of those who attended to the affected cattle, and who slaughtered them afterwards. With regard to foot-and-mouth disease, Dr. Thorne had found that some people who had taken the milk of the affected animals had contracted sore throats and irritation of the toes and fingers, but between 1869 and 1872 over 3,000,000 animals were attacked; at one time as many as 48,000 in a week. And again, from 1880 to 1884 between 800,000 and 900,000 animals were reported, and yet the cases occurring among men in that time were comparatively trifling; there was nothing like an epidemic amongst the human species. The difficulty of diagnosis in some of the diseases communicable to man was occasionally very great. In the case of glanders, it was sometimes necessary to inoculate an ass with the virus in order to discover its true nature. Diseases of the first series, like cow-pox, anthrax, and actinomycosis, were so alike in man and animals that it was difficult to judge in which direction they were transmitted. If a man were inoculated with cow-pox, hydrophobia, anthrax, or actinomycosis, lesions followed similar to those in animals. The latter disease had recently been shown to be very common among the bovine race, in the marsh lands of the fens, Cambridgeshire and Lincolnshire, where it had been known under the name of "wens," and other names signifying an enlargement in the region of the throat. In tuberculosis there was a close resemblance between the bacilli found in man and those discovered in the lower animals; this disease had not been included by the Privy Council in the Contagious Diseases (Animals) Acts, because it was not clear that good would follow to animals by doing so. If this disease of animals were considered to be a source of infection of human beings, it would be the duty of the medical officer of the Local Government Board to deal with it. It was an affection that was spreading rapidly amongst animals, and there were at present no means of detecting it in its early stage, and therefore no hope of stamping it out. With regard to maladies of the second series, such as diphtheria and scarlet fever, the difficulties of diagnosis were very great. Dr. Klein himself admits that in the case of diphtheria the evidence is very contradictory. Dr. Buchanan had said that there *might* be a disease of animals without very obvious skin eruption or disease of the udder which *might* cause diphtheria in man; he doubted whether the meeting would desire to go further than these statements at present. With regard to

the question of the existence of a cow disease which could cause scarlatina in man, he had promised the officers of the Local Government Board that if he found a single instance in which cow disease was coincident with scarlatina he would inform them, but up to the present he had not been successful in discovering such an outbreak. He had seen no less than four eruptive diseases in cows: blister pock, black pock, yellow pock, and an eruptive disease which is most prevalent at the present time, and which spreads with great rapidity through the herds by means of the hands of the milkers. This had been proved conclusively, for men had gone from a herd and had taken the disease into a fresh district. There is one disease which is called sore teats or cow-pox, which is found throughout the country from Lanarkshire to Somersetshire; he was sure that it had nothing whatever to do with scarlatina, and was not coincident with it. It was a question what relation this affection bore to the Hendon disease, which Mr. Power thought to be the cause of scarlet fever. A number of persons had seen both diseases, and at the proper time their evidence would be given for what it was worth. The descriptions of the two diseases read very much alike. Dr. Klein had said that the scabs were smaller and the ulcers deeper in the Hendon cows, but in the disease called sore teats he himself had seen ulcers of all sizes and of varying depths. In the present days of very exact work, most things not obviously precisely similar had already been differentiated, and the object of many now appeared to be to discover differences between things that were exactly alike; but they must remember that the average practitioner could not go into minutiæ; he could not cultivate the microbes and distinguish between them; he must judge of the disease by what it seemed to him to be, and groups of similar symptoms would be called by him the same disease. He appealed to them to decide the question whether or not there was a disease of cows' udders which could communicate scarlatina to man, and to consider carefully the verdict which they sent forth. And he hoped that the truth of their conclusion might be capable of easy demonstration.

Professor CROOKSHANK said he would restrict himself to the bacteriological aspect of Dr. Klein's paper. He had been for years making a careful study of actinomycosis, and he had found that the organism, when observed in man, was very different from that in cattle. This might be explained in one of two ways—either that there were two different organisms, or that they were different conditions of the same organism. Guttman had isolated three micrococci in vaccinia; with one of these Dr. Klein's streptococcus was stated to be identical. He could not accept the view that the streptococcus of foot-and-mouth disease was a distinct species. He held that some minor difference, such, for instance, as the time required by a microbe to turn milk solid, could not be accepted as a satisfactory method of distinction. Dr. Klein said he had differentiated seven streptococci, whose action, he said, was altogether different when inoculated into animals, but on reading through Dr. Klein's narratives it would be seen that in not more than two cases were parallel experiments performed. Dr. Klein did not seem to have kept himself *en rapport* with the writings of German observers during the last three or four years. They had come to the conclusion that in numerous diseases the organism was streptococcus pyogenes. He himself considered the organisms of the Hendon disease to be those commonly present in pus, and he had definitely come to the conclusion that the streptococcus of the Wiltshire disease was the streptococcus pyogenes. With regard to diagnosis by differences in size of colonies, the micrococcus of scarlatina took weeks and months to get larger than a pin's head, and it was the same with the Wiltshire micrococcus. With regard to differences of appearance in cultures, Dr. Klein had said that the Hendon micrococcus was not iridescent, and that this constituted a difference between this and the Wiltshire germ; but on another occasion the Hendon culture was shown to be iridescent, and Dr. Klein admitted it. Again, Dr. Klein held that the Hendon culture was more opaque and whiter than the Wiltshire culture; but it was found on inquiry that the Hendon specimen shown for comparison had been passed through a mouse, and this had no doubt altered its characters. If the same species under different circumstances was thus capable of assuming different characters, what then became of the argument that different species could be distinguished by minor differences in appearance? In 1886 Fränkel and Freudenberg cultivated the streptococci pyogenes, puerperalis, and scarlatinæ and compared them, but could find no distinction between them. He himself maintained that this micrococcus was to be found in all cases liable to septic infection, and in scarlatina an entrance could be effected by means of the throat lesions. In the true exanthemata bacteriology had not assisted us at all, except in a negative direction; there were some diseases due to bacteria, but not these. In the Wiltshire animals nothing at all of importance was found post mortem; the abscess of the teats was a "Veterinary College complication," for they did not understand how to milk the sore teats. He thought it dangerous to draw conclusions from two post-mortems. In Dr. Klein's cases there was nothing characteristic other than pleurisy and lung complications; but in calves inoculated with scarlatina there were definite results which were none other than septic infection; and reading these results reminded him of Bollinger's statements with regard to septic lymph. He maintained that the Wiltshire disease resembled that at Hendon. It was a vesicular affection affecting the teats and going through a herd; the ulcers in both were alike. Even Dr. Klein had said that sections of ulcers from the Hendon cases vividly recalled to him the appearances of cow-pock. He was sure that the disease was not the same as scarlatina in man. The nature of the contagium of the latter at present was absolutely unknown.

Professor AXE said the question to which they were then addressing themselves was, Did a particular disease in a particular herd of cattle cause a particular outbreak of scarlatina in London? The cows at Hendon were a portion of a lot of thirty which were sold at Derby; three of these were purchased for the Hendon dairy, and one or more were suffering from a disease of the teats. Some went to Merton or Wimbledon, and others to the neighbourhood of London, and therefore this same disease was also carried to other dairies, amongst them to the dairy of a medical man and one acquainted with pathology, who examined them. Out of five centres to which the cows were traced, scarlatina was only found to be prevalent in one. During the month of October, 1885, three cases of scarlet fever occurred in Hendon: the first in a woman, who was attacked on the 4th, and from whom it was transmitted to two children, who fell ill on the 10th; late in November two other cases occurred in "the mead," a district contiguous to the dairy farm. These cases rendered it a possibility for the milk to be contaminated from a human source, and this possibility would be converted into a probability if a connexion between the district and the dairy could be traced. Dr. Thin had stated that two men passed daily from the dairy to the mead, where scarlatina prevailed. He could not only confirm this statement of Dr. Thin's, but he had found that at least four persons attending on the cows, and taking part daily in the affairs of the dairy, resided in the mead, and as the virus had been demonstrated to exist in the desquamating cuticle, it could be easily carried by human agency. In reference to the question whether the cow could incubate the virus of scarlatina, he would allude to the investigation carried on in 1882 by Dr. Klein and Mr. Power concerning an outbreak of scarlatina in St. Pancras, and one particular cow was suspected. Dr. Klein made several experiments; he inoculated human scarlatinal cuticle into cows and fed them with it; he inoculated and fed them with throat discharge, and the combined result was to produce only an abscess in the leg of the cow. This result had been recently confirmed by the Edinburgh committee; they had fed cows and inoculated them with blood, cuticle, and throat discharge, but no case developed that could be construed into scarlatina. He looked to these facts as having considerable importance with regard to the question under discussion.

Professor BUCHANAN said that the calf recently exhibited by Professor Crookshank at the Pathological Society as a successful inoculation experiment appeared to him to be suffering only from dermatitis contagiosa.

Surgeon-Major PRINGLE had devoted a great deal of attention to the subject of inoculating the cow with human variola, and had been most particular in the method adopted, but he had always failed to obtain a true vaccine vesicle; afterwards he had retro-vaccinated every one of the animals, and had been successful in each case. He had seen spontaneous cow-pox over the quarters of the cow as well as the teats; he had used lymph from these to inoculate, and he had failed in every case to vaccinate either cow or child; it was evidently a spurious cow-pox. He believed that the foot-and-mouth disease was a variety of cow-pox. In the Himalayas small-pox was inoculated, the virus being inserted into the thumb, and the crusts were given internally as small

pills; it gave rise to a mild attack of small-pox. One outbreak was traced to sugar, which contained a large quantity of small-pox crusts.

Dr. KLEIN, in reply, expressed his deep sense of gratitude to all who had discussed his paper. He was glad to hear Professor Brown admit that there was a variety of diseases in the cow which manifested themselves by ulceration and sore teats. He looked upon that as a valuable admission. He was able to add another disease, that recently described in Edinburgh, which was different both from the Hendon and the Wiltshire outbreaks. The Wiltshire disease had undoubtedly been communicated to man, and Professor Crookshank considered it to be cow-pox, but the ulceration was not the same, and the course of it differed from the description given by Ceely and Jenner. With regard to the streptococci, he was convinced that they were not all the same; the streptococcus pyogenes and that of vaccinia, foot-and-mouth disease, erysipelas, and puerperal septicæmia, were all different. If the Hendon micrococcus were inoculated into the rabbit nothing happened, but a distinct erysipelatous blush followed the inoculation of the micrococcus of erysipelas. During the last four weeks he had seen three other new micrococci. Fränkel had said that probably the streptococcus pyogenes and that of erysipelas were the same, but everyone would admit that erysipelas was a very different affection from simple phlegmon. Professor Crookshank had said that it was exceptional to get abscesses in the udders of the Wiltshire cows, but he had recently seen a third case with ulcers on the udders which had been milked well, but, notwithstanding this, high up in the udder was developed a hardening which became an abscess, and Mr. Power had learned that in Wiltshire the cows had abscesses in a large number of cases. The Wiltshire cows had ulceration at the apex as well as at the side of the teat, and he concluded from this that the inflammation spread along the milk duct, and so set up the suppuration. In the Hendon cases there was no abscess formation in the udder, nor was there in the Edinburgh case; he considered it to be one of the characteristics of the Wiltshire disease. Inoculation of the Hendon virus into calves produced ulceration, which showed itself on the fourth day, whereas in similar inoculations of the Wiltshire virus the local manifestation was at its height on the fifth day, while the Edinburgh virus produced no result till the ninth or tenth day. With regard to Professor Axe's observations about the cases of scarlatina occurring in the mead, he wished to point out that the infectivity of the milk was increasing from day to day for some weeks, notwithstanding the utmost precaution of the farmer and his men. It appeared to him impossible that these four men, going daily from the mead to the farm, should have carried the contagium on their hands and in their clothes; besides, Mr. Power had succeeded in tracing the disease from particular groups of cows to particular cows. Professor Axe also spoke of the desquamating cuticle as containing the virus of scarlatina, but he was not aware that the desquamating cuticle of all cases at all stages was infectious, and the Edinburgh committee, in using cuticle for inoculations, did not, to his mind, fully prove their point; they were using an unknown quantity—cuticle which might or might not contain virus; and the same applied to the blood. Had they killed the inoculated calves with a view to discover internal lesions? The Edinburgh cow sent to the Brown Institution had no marked rise of temperature, yet there was very extensive disease of the lungs—hepatisation with petechial extravasations. A proper conclusion could not be drawn from an inoculation experiment unless after the inoculation the animal were sacrificed and a careful internal examination made.

Dr. THORNE THORNE, in asking for a vote of thanks to Dr. Klein, expressed his gratitude to him for coming forward at the request of the Society to bring the subject before them. The debate had cleared up some ambiguities, and had clearly pointed out the road for future investigation. He desired particularly to thank the veterinary surgeons for coming to consult with them on such an important subject.

LONGEVITY.—The united ages of the twelve oldest men in Greenwich Workhouse is 1021 years, or an average of 85 years and 1 month. The oldest, John Sullivan, is 101 years old, the next 88, another 87, two 84, and six 83. The united ages of the twenty oldest men in the institution is 1551 years, or an average of 77½ years.

Reviews and Notices of Books.

Lehrbuch der Kinderkrankheiten. Von Dr. ADOLF BAGINSKY. Braunschweig: Friedrich Wreden. London: Williams and Norgate. 1887.

Gerhardt's Handbuch der Kinderkrankheiten. Nachtrag II.: Die Psychischen Störungen im Kindesalter. Von Dr. H. EMMINGHAUS. Tubingen: H. Laupp'schen Buchhandlung.

THE volume of 900 pages by Dr. Baginsky now before us contains much valuable information, and is a good account of disease in children. Some amongst us are of opinion that in writing of disease in children it would be well to point out differences between them and adults, rather than write systematic chapters necessarily going over much of the same ground as is traversed by the writer of an ordinary text-book on medicine. It would be of great assistance to the student to have pointed out in clear language what the essential differences are between children and adults. Dr. Baginsky has in some measure done this. His general chapter, occupying forty-five pages, deals with the special physiological peculiarities of infancy as they are met with in the circulatory, respiratory, digestive, and other systems. Taken as a whole, this part has been done well, and most of the facts recently ascertained have been incorporated in it. Cohnstein and Zuntz's observations on the concentration of the blood which occurs after birth are mentioned, and also those of Silbermann on the colourless corpuscles, or "shadows." In writing of the pulse, Dr. Baginsky rightly draws attention to the state of the blood pressure in disease, and remarks truly that a great increase in tension has more diagnostic value, whilst a great decrease in tension has more prognostic importance. Beneke's conclusions as to the relative size of organs compared with the length of the body as well as with other organs are quoted. During the first months of life, the volume of the lungs is to that of the heart as 4 is to 1; somewhat later, owing to the rapid development of lung tissue, the proportion alters to 7 to 1; this relationship is altered at puberty to 5·5 to 1, as the result of the rather sudden increase in the size of the heart at that period. The bile of children has been studied by Jacubowitsch, who has found that the inorganic salts are smaller than in the adult, with the exception of the salts of iron; cholesterine, lecithin, fat, and biliary acids are all diminished; especially is there a want of glychocolic acid as compared with the adult. Escherich's researches on the effects of a pure milk diet also find a place. The first section of the special part treats of diseases of the new-born. The article on Acute Fatty Degeneration of the Viscera, associated with hæmorrhages in various parts, naturally throws no light on the causation of this affection, which hardly merits a special designation. In our experience the syphilitic poison would appear to be responsible for some of the cases. The infectious diseases are well described, and especially may we mention the chapter on Typhoid Fever, which shows how diligently the author has read the German and French literature; but he is not so well read in English and American authorities. Speaking of the pathological anatomy, Dr. Baginsky avers that in hereditary syphilis changes in the bones are the most constant symptoms of the disease. The differences between rheumatism in children (at all events as we know it in England) and adults are not well indicated, and this chapter is one of the least satisfactory in the whole book. The account of nervous diseases is thorough and complete.

Dr. Emminghaus' work of 300 pages is published separately, although forming a section of Gerhardt's Handbuch, and it treats of the mental affections of childhood. The history of mental disease in children is, in comparison with other fields of pathology, remarkably poor in memorable facts. In the early part of the present century some few

contributions to this department of disease in children were made by Jördens, Esquirol, Vering, Vogel, Behrend, Foville, Spurzheim, and others, who pointed out some facts in the pathogenesis of mental aberration, and showed the importance of fright, acute diseases, mental strain, head injuries, and peripheric nerve stimulation in the production of brain disease. In England, Charles West, Blandford, and Langdon Down have done much to increase the accuracy and extend the bounds of our knowledge. The result of recent research has tended to elucidate the fact that mental disease in childhood is fully as various and as extensive as in adults, and indeed is even more interesting from the circumstance that the chief organ of mind undergoes wonderful developments and growths, exposing it to even greater pathological vicissitudes than in the adult. Dr. Emminghaus has written a most valuable work, incorporating in it practically every ascertained fact in connexion with his subject. The contrast between Dr. Langdon Down's book and the present one is very great, for the former physician bases his work chiefly on the results of his own large experience, whereas Dr. Emminghaus' claim to recognition rests more largely on the completeness of his literary references, but contains also the outcome of his own considerable practice. The section on the general symptomatology of Psychoses in children is excellent for its completeness, suggestiveness, and careful arrangement. The anomalies of sensation, imagination, ideation, and of the emotions are carefully described. We think the author is right in devoting a separate chapter to Cerebral Neurasthenia as a psychosis of childhood. Suicide in children occupies a subsection of Melancholia. Altogether the work will prove of great value, especially as a book of reference.

Surgical Pathology and Morbid Anatomy. By ANTHONY A. BOWLBY, F.R.C.S., Surgical Registrar and Demonstrator of Surgical Pathology at St. Bartholomew's Hospital, &c. Students' Guide Series. London: J. & A. Churchill. 1887.

This book, dedicated to the students of St. Bartholomew's Hospital, is written with a view, so the author states in his preface, to describing "as simply as possible the various pathological processes which are of interest to the student of surgery." The number of subjects treated of, including the majority of those pathological conditions which enter into the domain of surgery, when compressed into so limited a space, precludes full or minute description; and for the same reason we cannot hope to light upon much that is original, unless it be in the matter of arrangement or in the method adopted by the author for teaching purposes, and this we do not find. Indeed, looking to the presence of several other text-books on Surgical Pathology which have attained a deservedly wide circulation, and to the fact that the subject is fully and admirably set forth in some of the well-known treatises on Surgery, we do not quite recognise the necessity for the production of a work of the class before us. Will not the student, too, be more likely to grasp the facts of pathology by studying morbid anatomy in association with what may be called clinical pathology and with treatment, as he naturally would do in a treatise or System of Surgery?

The information supplied, nevertheless, is generally concise and accurate, although we are bound to take exception to the statement that the pus of an acute abscess is *never* reabsorbed; this is certainly the rule, but the author is of course fully acquainted with the exceedingly common phenomenon of the reabsorption of pus which has been effused into the anterior chamber of the eyeball, and in other cases a common belief is that in rare instances such reabsorption may occur. (*Vide* Erichsen's Surgery, eighth edition, vol. i., p. 233.)

Sometimes, we think, brevity in description has been carried to its utmost limits: for example, the general pathology of "cysts" is dealt with in two pages of print; hydatid cysts are simply mentioned, and so of branchial cysts; in the account of surgical kidney and acute suppurative nephritis, the diagnostic characters which distinguish these affections of the kidney from those found in chronic Bright's disease do not appear, nor can we read any reference to reflex hyperæmia or irritation as an element in the causation thereof. It is to be regretted that such subjects as intracranial suppuration, suppuration in the mastoid cells, diseases of the orbit, and a few others, have not received due consideration, since those mentioned are of the greatest surgical interest and importance; perhaps the author may think fit to add these in any future edition. The figures illustrating the book, 185 in number, have been printed from blocks prepared by the Typo-etching Company; they are for the most part excellent, especially those which depict the naked-eye characters of pathological specimens. A diagramatic representation (Fig. 4.) of the healing of a wound puzzled us not a little, and might perhaps be altered or abolished with advantage. The literary style is clear and succinct, and the whole work bears evidence of careful revision. The type is really excellent, and the printers and publishers are deserving of much credit.

SOCIETY FOR THE STUDY OF INEBRIETY.

THE President, Dr. NORMAN KERR, delivered the second of a course of lectures in the rooms of the Medical Society of London on the 18th inst. The subject was, The Treatment of Inebriety. The lecturer said, so serious were the sufferings which this disease inflicted on the inebriate, his friends, and the community, that an infallible elixir had been ever diligently sought after. Several hundreds of so-called "perfect cures" had been promulgated, but all of these, from a spirituous solution of frog to the "red bark cure," had been simply quack remedies of little, if any, value. There was no specific. Treatment must be based on sound scientific principles, after the predisposing and exciting causes in each individual case had been ascertained. The first indication of proper treatment was the cessation of the poisoning process by the discontinuance of the inebriating agent. With alcohol, chloral, chloroform, and ether this could be immediate, but with opium and morphia should be gradual. For the nervous irritability characteristic of this stage the bromides with hyoscyamus were invaluable. As a sedative the hot wet pack was most useful. Ice, milk, with soda-water or lime-water, and the bromides in an effervescent form, allayed the irritable condition of the stomach. Tonics were contra-indicated at this therapeutic stage. The second indication was the removal or counteraction of the exciting cause where removal could not be attained. The third indication was the reparation of the physical damage wrought by the disease, the remedying of the pre-inebriate morbid condition, and the invigoration of the inhibitory power. For renovation of healthy tissue good sound food was needed. Vegetarianism claimed to be able to prevent and cure inebriety, but the claim was unfounded. A mixed diet of animal, vegetable, and fruit food was best. A restricted dietary suited some, but these were the minority. Intoxicants should be unconditionally eschewed. Tonics were here indicated, and unintoxicating "port with bark" was often of service. The abnormal condition from which the inebriety had taken its departure should be rectified. Frequently uterine disorder was the starting-point, in which case the rectification of this complicating affection was a great part of the cure of the inebriety. The inhibition should be fortified by its exercise, by hygienic and bracing measures, by moral, mental, and religious influences, by nervine tonics, such as nux vomica and phosphorus, with fatty foods. When seen early, the inebriate could be treated while employed at his usual avocation, but rarely was medical advice sought at this stage. When confirmed, the disease was best treated at a genuine home for inebriates, where no inebriating agents were allowed, and where sound treatment was carried on. It was better to enter under the Habitual Drunkards Act, and to remain in residence at least one year. Seen at an early stage, inebriety was as curable as most other diseases.

THE LANCET.

LONDON: SATURDAY, JANUARY 21, 1888.

ON the 16th inst. all applications for a hearing by the Privy Council in support of the two schemes for conferring degrees on London students, or against them individually or collectively, were lodged by the various institutions and persons interested in the movement, and the question must now enter on a newer and more acute phase. The University of London has definitely decided on opposing the formation of a Teaching University, as proposed by University and King's Colleges (to include the other medical schools), and on not objecting to the proposal to giving a degree to London medical students on terms similar to those existing in the Scotch and provincial Universities, as asked for in the petition of the Royal Colleges of Physicians and Surgeons. The University of Cambridge will object strongly to any degree-granting power being bestowed on the two Royal corporations, but will not interfere in the formation of a new Teaching University in London for London students; and Victoria, Durham, and Scotch Universities will follow on the same lines. It is urged by these Universities that the privilege of degree-granting should be attached to Universities only as a mark of higher education, and ought not to be permitted to any corporate bodies, which should, as at present, be restricted to giving licences to practise, and to selecting Members and Fellows of their own bodies. These corporations, they say, are quite outside the domain of general education, and exist and are maintained for professional purposes only. The three Scotch corporations—the Royal College of Physicians, the Royal College of Surgeons, and the Faculty of Physicians and Surgeons of Glasgow—have presented a joint petition demanding for themselves a concession similar to that asked for by the English medical corporations, and it will be very difficult for the Privy Council to yield to the demand in the one case and refuse it in the other, although there are many reasons to be urged in favour of London students which cannot be fairly put forward on behalf of the Scotch *alumni*. The Universities of Glasgow, Aberdeen, and Edinburgh confer degrees on medical students on fair pass examinations and on reasonable conditions; the University of London maintains that every examination held within its portals is practically equal to an Honours examination. Again, no one will seriously affirm that the Scotch medical corporations insist at their professional examinations on a standard which can be compared for stringency with that fixed by the Conjoint Examination Board in England. Still, if the granting of degrees is to be entrusted to medical corporations, it will be a bold step for the Privy Council to grant this privilege to the English Colleges alone, as such a restriction would inevitably cause much national heartburning and jealousy. In a previous number we referred to the petitions sent in by the Society of Apothecaries and by the Association of General Practitioners, claiming the extension of the degree-giving power to the former body, and objecting to the constitution of the Senate proposed by the Royal Colleges as being too exclusive and non-representative of the profession generally, and asking for a revision of the Charter in these directions. The provincial schools object to the obtaining of a degree-granting power by the Royal Colleges for London students only, on the ground that they have rights and privileges as existing constituents of these corporations, and cannot permit them to exercise any privileges which they now hold or might obtain in the interests of London students only, as this would act prejudicially towards the provincial students, especially if a term of residence in London were to be made a *sine quâ non* for a new degree. Mr. MARSHALL has consented to state the position from the Teaching University standpoint, and the Principal of King's College and Sir GEORGE YOUNG will put forward the claims of King's and University Colleges to form the non-medical Faculties of a proposed (Albert) University, the Draft Charter for which, with a petition, was presented in July last. They will give reasons against establishing a one-Faculty University. Sir HENRY PITMAN has also sent in a statement in support of the Draft Charter and petition of the Royal Colleges; whilst the Bishop of LONDON is anxious to see a real local University, with complete Faculties, established in his diocese, and his well-known experience as an educationist must give his views considerable weight. It seems to us, therefore, that, considering all these petitions, the only method by which degrees can be given to London medical students, either separately or in conjunction with students in other Faculties, is through a searching investigation by a Royal Commission. We have always expressed the opinion that a substantial medical injustice must be remedied, and if this can be done with advantage to the general educational interests of London at the same time, so much the greater will be the benefit to the public and the profession.

In another page we give an abstract, but with fuller details than are supplied by our daily contemporaries, of the important discussion which took place on Wednesday last at the meeting of Convocation of the University of London. The motion that "Convocation expresses its approval of the Senate's action in objecting to the joint schemes of King's College and University College," although passed by a considerable majority, was opposed by several members in speeches of some vigour and interest. The Imperial character of the London University was freely admitted, and the fact that it performed the functions of a universal State examining board most thoroughly and well was ungrudgingly acknowledged by all; but it was forcibly put by more than one speaker that the better these duties were discharged by it, so much the less capable was it of meeting the needs of a local University for local students. No internal reforms, however good they might be, could be adopted by it if, by these, its Imperial functions and its benefits to "private-study" graduates would be impaired, for since 1858 these duties have been its main aim and objects. Teachers, as such, have no part in the deliberations of the Senate; systematic courses of lectures and study are unknown in its regulations for degrees in Arts, Laws, Literature, and Science, and have only out of sheer impossibility to get rid of them kept a place in the

curriculum of medical studies, in which Faculty alone the Senate has been afraid of logically carrying out its principles and adopting a pure and simple examination test. The University of London cannot reverse the traditions of thirty years, and a new Teaching University is absolutely required to do the work for which that institution was primarily established, and which it afterwards abandoned in favour of its present career. There can be no doubt in the mind of anyone unconnected with the University that the work of the two bodies is essentially different, that they could both improve our higher education, and that there is room for both in our vast metropolis.

The attitude of the Senate of the University towards the two proposed schemes before the Privy Council is worthy of a passing notice. A year or two ago it issued a very strong protest against the granting of degrees in Music by the newly founded Royal College, on the ground that these were academic distinctions, marks of high general educational knowledge, and not merely professional badges. On January 11th the same body decided to stand apart and not oppose the obtaining of a Charter to grant degrees for medical students by the Royal Colleges of Physicians and Surgeons, although these bodies explicitly state that they want such power for a professional object only—viz., to grant degrees to London students on average pass professional examinations, and that they have not to concern themselves with any higher educational schemes. A necessary result of this declaration is that every University in the kingdom which takes an interest in the question, whatever other reason it may also allege, is opposing such a grant, except the University of London. At the same time, the Senate comes forward as the single University opponent to a scheme to federate the only effective Teaching Colleges in London in Arts and Science with the Medical Schools, into a new University on the lines so successfully carried out by the Victoria University and its Colleges in the north of England. We hope that the members of the Senate duly appreciate the position in which they have placed the University through the inconsistency of these decisions with their former pretensions, and feel no misgivings as to what impartial critics and observers must say on their line of action. It will be difficult to persuade a sceptical audience outside Burlington-gardens that illiberality and jealousy may not occasionally be found as intruders even within the sacred precincts of its Council chamber.

THE discussion which ensued upon Professor CROOKSHANK'S paper at the Pathological Society on Tuesday last, closes—for a time, at least—what cannot but be regarded as a somewhat dramatic episode in the history of etiological inquiry. Those who have followed the subject during the past two months will agree with Dr. THORNE and Professor BROWN that the issues have become very confused, and will gladly echo Sir JAMES PAGET'S suggestion that it should be allowed to rest for a while. The controversy was becoming too acute for the sober and impartial study of the subject, which alone could have scientific value. Professor CROOKSHANK and Dr. KLEIN—between whom practically the question rests—have, unwittingly it may be, taken a course with respect to each other's work which can surely not conduce to the settlement of the question. Although each observer expressed himself ready and anxious to afford facilities to the other, yet how little the one knew of the other's work was evidenced by the regrettable oversight which permitted Dr. KLEIN to exhibit before the meeting one of the calves which had been inoculated by Professor CROOKSHANK, and had been subsequently vaccinated, without any intimation to Professor CROOKSHANK of the step. The meeting must have felt that Professor CROOKSHANK was perfectly justified in his allusion to this unfortunate error, for, as we have always recognised, and willingly now repeat, throughout the inquiry he has conducted, Professor CROOKSHANK has been most anxious to afford every facility to independent observers to investigate the disease he maintains he has discovered. He deserves, moreover, much praise for the energy and labour he has expended in his inquiry; and it would, perhaps, be harsh to suggest that it would have been better had he waited still longer before again bringing his results before the Society. It would have been even better and far more satisfactory in the interests of science had Dr. KLEIN associated himself with Professor CROOKSHANK in unravelling the nature of the Wiltshire cow disease, and in those bacteriological researches of which they are foremost investigators.

Setting this aside, it must be confessed that we seem no nearer a conclusion as to the identity of the Hendon cow disease with that of Wiltshire. Dr. THORNE clearly brought out the fact that the only proofs of the nature of the Hendon affection that were substantial were those which were adduced by Mr. POWER when he traced its relation with scarlet fever. Professor AXE'S original assertion that the disease was a common one in herds was not proved, and indeed seemed to be inconsistent with another statement of his, that it had communicated vaccinia to boys. No one has been able to find a fallacy in Mr. POWER'S chain of argument, and Professor CROOKSHANK would, we think, admit that it was not on that ground that he disputed the connexion between the bovine and human maladies. For his ground has throughout been the pathological one, and his contention has been with Dr. KLEIN'S and not with Mr. POWER'S share in the original inquiry. As regards the connexion between scarlet fever and cow disease, we have valuable evidence, such as that adduced by Professor BROWN and Professor AXE at the Epidemiological Society. Professor BROWN, with all his wide experience, has never yet met with any coincidence of scarlet fever epidemics with eruptive diseases in cattle; and Professor AXE stated that cows from the same herd as those which took the disease to Hendon had been traced to four other districts, in none of which scarlet fever prevailed. Nevertheless, the dependence or not of that particular epidemic upon that particular affection of the cows on the Hendon farm must of necessity be incapable of direct disproof.

We may, then, for the present dismiss the Hendon cow disease for the consideration of the equally interesting affection so carefully studied and described by Professor CROOKSHANK in Wiltshire. Was that an outbreak of vaccinia or not? It is clear that there is much scepticism on this point; and Dr. KLEIN doubtless produced the calf, to which we have already alluded, with a view to clinch the argument. But Dr. CROOKSHANK did not lay much stress

upon his inoculation of that animal; and it is therefore quite open to question whether he communicated vaccinia to it or not. He says the appearances present were such as CERLY describes as produced by retro-vaccination of the calf; but we have the high authority of Dr. CORY that it could not then have had true vaccinia and have again been successfully vaccinated within three weeks. We will then waive this "crucial test," upon which we imagined that Professor CROOKSHANK placed greater value than he appears to have done; and will be content to await the results of his promised revaccination of the lads who contracted the disease from the cows. It is true that neither Dr. THORNE nor Dr. CORY saw anything distinctive of vaccinia in the depressed scars on the hands of the lad shown at the meeting; but then Dr. THORNE himself pointed out the lad had well-formed vaccine marks. But we should like to point out that, if the Wiltshire affection be not vaccinia, there has not been any alternative suggested as to its nature. It remains a most interesting discovery; and in its locality, its rarity (as gleaned by Dr. COLLINS and Professor CROOKSHANK), it might well be an instance of spontaneous cow-pox, for which in 1880 Dr. BUCHANAN and his colleagues scoured the country in vain.

In conclusion, we may point out the main differences that exist between Professor CROOKSHANK and Dr. KLEIN upon the subject. At the meeting on Tuesday last Professor CROOKSHANK was careful—at very great length—to enumerate the specific diseases in connexion with which the streptococcus pyogenes had been found, thus proving the remarkable ubiquity of this septic organism. He had himself identified the microbe he found in the Wiltshire cow disease with this same organism, and inferred that Dr. KLEIN's streptococcus scarlatinæ is the same. He also showed that the lesions described by Dr. KLEIN in the Hendon cow disease were similar to those he had himself found in the Wiltshire cows, and both consistent with the effects of septic poisoning. To all this Dr. KLEIN offered a determined resistance. For, although he fully admitted the ubiquity of the streptococcus pyogenes, he declared that the organism he isolated in the Hendon cow disease was *not* that organism. He also demurred to the comparison between the lesions of the two diseases, and maintained that, both from the anatomical and clinical side, the differences were such as justified a separation between them. The question raised by Professor CROOKSHANK respecting the *rôle* of the streptococcus pyogenes is a wide one, and it may open the way for a reconsideration of the relationship existing between septic and pathogenic organisms; but, apart from this, it is not surprising that so common a septic agent should gain entrance into the body in any disease which involves a breach of surface of skin or mucous membrane. What we should like to know is whether the exanthemata can be identified with any indubitably specific organism; and we welcome Professor CROOKSHANK's statement of his intention to pursue this subject in the future. Let us hope that as time goes on there will be found no such serious differences in matters of fact as now appear to exist, and that bacteriologists and others will succeed in elucidating the nature of specific contagia by arriving at a common result. Otherwise we fear that progress will be retarded and bacteriology itself will suffer a severe blow.

Now that the particular legal point raised by the case of MILLICAN *v.* SULIVAN and others has been decided, it will be well to recall attention to the general question involved in the discussion which has been evoked by that case, and in connexion with which an influential daily contemporary has thought it wise to admit into its columns a correspondence almost unprecedentedly voluminous. One party in this controversy has sought to make it appear that the profession has lately changed its ground of objection to meeting homœopaths. But this is not so. Such meetings have always been held to be unseemly and unreal, neither creditable to the consultants nor profitable to the patient. It is twenty-seven years since Sir BENJAMIN BRODIE, in one of the wisest and most dignified papers which have appeared on this subject—to be found in the first volume of his published works,—advised the profession "to continue in all ways to act honourably by the public, at the same time never being induced, either by good nature or by any motives of self-interest, to appear to give sanction to a system which they know to *have no foundation in reality*. To join with homœopathists in attendance on cases of either medical or surgical disease would be neither wise nor honest. The object of a medical consultation is the good of the patient, and we cannot suppose that any such result can arise from the interchange of opinions where the views entertained, or professed to be entertained, by one of the parties as to the nature and treatment of disease are wholly unintelligible to the other." The judgment of the Court of Appeal shows that the judges realise the "irksomeness" of a co-operation of persons holding such different views, and the absurdity of expecting a court of law to enforce such co-operation or anything savouring of it

The scientific and moral aspects of homœopathy remain very much where they were *ante bellum*. Lord GRIMTHORPE has met with his match in satire, and in the power of casting ridicule on views which he wishes to disparage. He has had the satisfaction of provoking a controversy of extraordinary length in the leading journal in the dullest season of the year, and of securing for the advocates of homœopathy a very much needed chance of airing their so-called principles and the wonder-working power of *apis* and others of their favourite remedies. But it is not by such advocacy that the public is influenced in its selection of medical advisers. Lord GRIMTHORPE himself is indeed almost converted—almost persuaded—to be a homœopath, and seems equally committed, or, as we might say, condemned, in the matter of his bones, to the care of "bone-setters." But this will not hinder him, in the event—which heaven forbid—of real danger to life or limb, of seeking the aid of the regular Faculty. At any rate, it will not hinder the public, who will be more impressed with the common-sense facts of the case and with the urgency of suffering and disease than with half a hundred smart letters made up of miserable bits of idle gossip telling a wretched story against any respectable member of the medical profession.

Even taking the more serious letters on the homœopathic

side, was there ever such a feeble structure built on such a flimsy basis? Were such meagre and doubtful arguments ever so greedily seized by hardly pressed combatants? Take the too much vaunted minim dose of vin. ipecac. as a remedy for vomiting, which Mr. MILLICAN thinks gives at least a quality of reasonableness to the homœopathic contention of *similia similibus curantur*, though he is careful to disclaim any belief in the doctrine. As if so coarse a quantity as one minim of such a preparation, according to the philosophy of HAHNEMANN, could give the "spiritual and dynamic" virtue which was of the very essence of his doses and his drugs. Dr. DYCE BROWN suggests a numerical argument for his school. He contends that if 300 men out of 27,000 members of the profession think homœopathy within the bounds of reason, it is therefore to be recognised and treated respectfully. But what about the judgment of the 26,700? We do not remember the exact proportion of colour-blind men, but it would be as reasonable to claim that they shall determine questions of colour, as that the great majority of the profession shall be required to recognise that which they can neither see nor respect.

Lord GRIMTHORPE has mistaken his calling. He has no mission to settle a question of this kind. It is too nice and altogether too grave. After making all allowances as to the imperfections of medicine, and especially of therapeutics, there occur almost daily to men in practice cases where the prompt use of apt measures is a life and death concern, or, at least, one of relief to urgent pain and agony. The medical profession declines to be bound in its selection of remedies by an absurd theory of last century, to which the experience of this century gives no sanction. It claims to be free. Lord GRIMTHORPE will not succeed in binding it. His deportment in this matter is in a way amusing, but in another sense it is rude. He knows as much of disease as a physician may be supposed to know of law. Yet he ventures to lecture the medical profession as if they were insensible to everything but truth and courtesy. Men who have to deal with human beings in the grave affairs of health, of life and death, cannot accept Lord GRIMTHORPE as a censor; and his noisy, gossipy attacks on them will not do much either to hurt them or to advance his clients—homœopaths and bone-setters.

ALBUMINURIA may seem of late to have lost a good deal of its significance as a clinical symptom. On the one hand, it has been shown that serious degeneration of the renal organs may have occurred and even advanced to a fatal termination without albumen having made its appearance in the urine; on the other, we have increasing evidence to show that albumen frequently appears in the urine under conditions that differ but little, if at all, from the normal. Under these circumstances there is a danger lest the routine examination of the urine for albumen be neglected, or, even if regularly practised, the importance of its detection insufficiently appreciated, since its presence thus seems to have but slight determining influence. Already there is a tendency on the part of patients, when the verdict of albuminuria associated with renal changes has been pronounced, to appeal to others, whom they hope may be likely to prophesy smooth things; and where such opinions are sought in merely casual consultations, too favourable verdicts are likely to be given in cases where the definite character of the renal changes is not otherwise well marked—a point which Dr. GEORGE JOHNSON particularly emphasised in his recent communication to THE LANCET. Thus too great assurance often results from the non-detection of albumen in cases where, from the polyuria, the tense pulse, and the heaving left ventricle, the medical attendant has been led to suspect the existence of renal disease. Mistakes in this direction, however, are now less excusable than before the researches of the late Dr. MAHOMED into the pre-albuminuric stage and its association with increased arterial tension, who before his death had collected abundant evidence establishing the fact that the kidneys examined post mortem in many patients dying at Guy's Hospital, whose urine, though repeatedly examined in the wards, had never been in the slightest degree albuminous, exhibited considerable degenerative changes. Professor DIEULAFOY has made similar observations, and has even gone so far as to describe the progression of the symptoms observable in the pre-albuminuric state. This important fact, which is really the outcome of the exhaustive and elaborate researches of GULL and SUTTON, is not only of immense importance to the physician, who, by the early detection of the disease during the pre-albuminuric stage, is enabled to arrest, or rather control, it by hygienic and therapeutic treatment, but also to the surgeon, who would decline an operation if the warning symptoms were present, notwithstanding the absence of albumen from the urine.

At the present moment, however, the attention of urinary pathologists is directed more towards the clinical significance of albuminuria occurring in persons apparently healthy, or, perhaps, to speak more correctly, not presumably suffering from organic disease. For many years physicians have been aware that albumen intermittently makes its appearance in the urine, but, owing to the infrequency with which in days gone by routine examinations of the urine were made, little attention seems to have been drawn to the fact. With the advent of a stricter clinical examination of the urine, the frequency with which "intermittent albuminuria" occurred was noted, and immediately explanations were forthcoming to account for the phenomenon. Dr. PAVY, noticing the tendency to the periodic recurrence of the albuminuria, especially during the morning hours, the time when the alkaline tide is also at its highest, regarded it as connected with a physiological cyclic change occurring at that period of the twenty-four hours. Dr. PAVY'S views have been criticised, and at the time he brought forward his theory we pointed out that this cyclic appearance of albumen may be anticipated or postponed by making the patient rise from bed earlier or later. Indeed, as Dr. STIRLING in a recent paper in THE LANCET remarks, the condition is probably due to a temporary state of paresis, owing to the sudden filling of the renal vessels caused by the patient rising from the horizontal position in the act of getting out of bed. The frequent occurrence of an intermittent albuminuria in young persons has led to the term "adolescent albuminuria," a term permissible only so long as we remain unacquainted with the conditions that produce it. Many explanations have been offered but no one is completely satisfactory. It

is probably due to a weakened state of the renal vaso-motor centres, which are easily thrown off their balance by exaggerated physiological conditions, such as over-exercise or indigestible food; by over-stimulation of the generative apparatus—masturbation in the male, and disorders of menstruation in the female. With respect to the latter, we should bear in mind Dr. MATTHEWS DUNCAN'S observation of the frequent connexion of albuminuria with parametritis. Over-study or anxiety also seems a frequent cause. Most hospital physicians are consulted by some of the students of their respective schools every year with respect to the temporary appearance of albumen in their urine, especially prior to the examinations, and hear nothing more about it when these crises are over. Sir ANDREW CLARK at Dublin was able to give very interesting information on this point with regard to the effect the Civil Service examination has in the causation of albuminuria in urine of many of the candidates. As distinct from cyclic and adolescent albuminuria Dr. RALFE (THE LANCET, Oct. 25th, 1886) has described a "paroxysmal albuminuria" very closely resembling hæmoglobinuria in many of its clinical characters, the blood-colouring matter being alone absent. In these cases an increase of urea and the presence of urobilin is usually noted, whence that observer infers that the albuminuria is caused by an increased hæmolytic action of the liver on the corpuscles. This examination of the other constituents of the urine at the same time that the presence of albumen is determined, and the comparison of them with samples passed when the urine is non-albuminous, seem to us most likely to yield definite information regarding the causation of the albuminuria in many of the anomalous forms. But the inquiry should not stop at the determination of the urea and urobilin, indican, &c, but be extended to the character of the albumen itself. As Dr. SAUNDBY very rightly observes, if the albumen in the paroxysmal form of albuminuria is derived from the blood-corpuscles, a large proportion ought to consist of paraglobulin. With regard to the question of the existence of the two forms of albumen in the urine—paraglobulin and serum-albumen—in some forms of albuminuria, we cannot pass over Dr. HERMAN'S interesting observations recently communicated to the Obstetrical Society of the condition of the urine in puerperal eclampsia, in which he confirms the statements of MAGUIRE and RALFE that the paraglobulin is in excess of the serum-albumen, and this he found to be especially so with cases of the congestive and *foudroyant* type. These observations are especially interesting as pointing to the conclusion that the changes in the kidneys are brought about by changes in the blood rather than, as has been generally taught, by mechanical pressure, either direct or indirect. We might extend this article almost indefinitely, but we have said enough to show that albumen has not lost its interest or importance as a clinical symptom, but that every individual case of albuminuria requires close and attentive study; above all, we would insist that too hopeful views should not be taken, certainly as far as treatment and enforcement of hygienic regulations are concerned, for we are ready to endorse Dr. JOHNSON'S opinion, that often intermittent albuminuria is a prelude to the more persistent and fatal form, whilst we know that artificial induction of albuminuria in animals is, after a short time, always followed by changes in the glomeruli and tubules. On the other hand, if care and attention be paid to dietetic and hygienic considerations, the patient's life may be considerably prolonged, and the advent of the more grave form of disease postponed for many years.

THE Students' Representative Council in Edinburgh, which was established at the time of the tercentenary of the University, seems to be feeling its power, and taking an active interest in everything which concerns the welfare of the students. It was recently proposed that a Commission of Teachers and Students should be formed for the purpose of considering the condition of the clinical teaching. The students seem to think that too little time is devoted to clinical study, and that the opportunities of acquiring a knowledge of special subjects (such as fevers, diseases of the eye, cutaneous diseases) and of seeing the out-patient practice are inadequate. The clinical teaching in Edinburgh is acknowledged to be very thorough and extremely good, so far as it goes. The fact that the physicians and surgeons make a daily visit and devote nearly two hours every day to clinical teaching, though it must be a heavy tax on men who are actively engaged in practice, is clearly a most satisfactory arrangement for the student. The very large number of students is the great practical difficulty in Edinburgh. Added to this there is the circumstance that the students are not equally distributed throughout the hospital. The wards of the most successful and favourite teachers are overcrowded, whilst the other parts of the hospital are, comparatively speaking, empty. Then the great stress which in Edinburgh is laid upon systematic lectures, and the large amount of attendance which is required, take both the time and energies of the student, and prevent as much time being given to practical work in the wards as might otherwise be the case.

To remedy this state of matters, various suggestions have been made. It has been proposed:—1. That the physicians and surgeons should attend at separate hours, in order to enable the student to have clinical instruction both in Medicine and Surgery during the same session. 2. To do away with the systematic lectures on one day in the week, and to devote the whole of that day to clinical work. 3. To make some arrangement by which the students may be more equally distributed among the clinical teachers. With this object it has been suggested that the clinical fees should be equally divided amongst all the clinical teachers; that the ordinary physicians and surgeons should, by virtue of their office, be University Clinical Professors and University Clinical Examiners; and that the students should be absolutely free to choose the clinical teacher with whom they would wish to be associated. 4. To enlarge the hospital and to appoint additional physicians and surgeons. 5. To diminish the number of beds under individual physicians and surgeons, and to make additions to the staff. 6. To place the surgical out-patients under the charge of the assistant surgeons and to develop a surgical out-patient clinique. The students complain that some of the surgical wards are imperfectly utilised for clinical instruction, the surgeon devoting a large portion of his time and energies to the out-patient department.

The fact that the Professorship of Clinical Medicine, which became vacant on the resignation of Sir DOUGLAS MACLAGAN, has not been filled up, has been freely criticised. And here we may point out that the method of appointing the Professors of Clinical Medicine in Edinburgh is peculiar. It appears that the majority of the medical professors have, on their appointment, the power of electing whether they will combine a Professorship of Clinical Medicine with that of the special subject to which they have been appointed. As a matter of fact, the power is not always used; but it seems anomalous that such a method of appointment should be allowed to continue. At the present day, when the teaching of clinical medicine demands quite as much peculiar aptitude and experience as any other subjects of the curriculum, it is absurd to suppose that the most suitable candidate, say, for a chair of Physiology, will necessarily also be the most eligible candidate for a chair of Clinical Medicine; and in the future it is certain that in other subjects, such as pathology, which are even more directly connected with the practical side of medicine, the same will hold good. It is quite obvious that if Edinburgh means to maintain its high position as a school of clinical medicine, it will in the future have to select its Professors of Clinical Medicine in the same way that it selects its other professors—viz., to throw the appointments open to the world, and to endeavour to secure the best teachers of clinical medicine that are to be found.

We look forward with much interest to the results of this Commission. We trust that it may see its way to meet the wishes of the students and to suggest such alterations as will make the great Edinburgh School of Medicine even more efficient than it is at present.

Annotations.

"Ne quid nimis."

ROYAL COLLEGE OF PHYSICIANS AND POPULAR MEDICAL TEACHING.

WE understand that a meeting of the whole body of Fellows of the Royal College of Physicians has been definitely fixed for Thursday next, the 26th inst., when the report of the Board of Censors relative to the professional propriety of Fellows, Members, and Licentiates of the College writing on medical subjects in the popular press will be presented. We learn that, after a careful investigation, a resolution has been passed by the Board of Censors, and a copy sent to every Fellow of the College for his consideration. This resolution will be discussed at the forthcoming meeting.

THE SCOTCH UNIVERSITIES AND THE RUSH INTO THE PROFESSIONS.

THE death of the Regius Professor of Botany leads the *Standard* into various reflections on the state of the professions and the salaries of the Scottish professors. The writer remarks, as our Edinburgh correspondent did last week, on the large number of medical students, especially in the University of Edinburgh. He places the number who have matriculated in Edinburgh at 1900, or nearly double the number of the undergraduates who entered Cambridge during the past year. Our contemporary explains the rush into the professions by the depressed state of trade and agriculture. Let us hope it will not prove a leap out of the frying-pan into the fire. The explanation would be forcible enough if the professions, too, were not in a depressed state. It is certainly somewhat appalling to think that one school alone should have students enough almost to supply the normal waste of the profession. Our contemporary starts from the vacancy in the Botanical Chair, and expatiates on the happy berth of an Edinburgh Professor of Botany, with fees amounting to £3000 a year for only three months' work, and an official residence in a wooded park. What a pity it is that London does not have its Teaching University to attract professors and students in the same way, and so to relieve the plethora of Edinburgh which really cannot meet the clinical demands of its enormous school. How long will this want be unsupplied? No doubt, as our Edinburgh correspondent lately said, there is an earnest desire on the part of both students and professors to meet the enormous demand, but it is impossible to get a quart into a pint pot, and the sooner London comes to the relief of Edinburgh the better.

MILLICAN v. SULIVAN AND OTHERS.

A FLOOD of discussion has grown out of this action, which was brought by a member of the surgical staff of the Queen's Jubilee Hospital for the purpose of restraining the Managing Committee of that institution from cancelling his appointment on the ground that he had accepted an appointment on the staff of another hospital where homœopathic methods afford a recognised and optional mode of treatment. Mr. Justice Manisty, by whom the action was tried, animadverted strongly in his judgment on the course which the committee of the hospital had adopted, and we are not at all disposed to gainsay some things which the learned judge said in that connexion. But for travelling into that field at all he has been rebuked by the Court of Appeal. With unmistakable emphasis the Master of the Rolls laid down that "the Court had only to deal with the legal aspect of the case, and had to give no opinion as to the propriety, fairness, or sense of what was done by either side." Thus cleared of polemical elements, the case affords an interesting illustration of the relations which arise between the members of the medical staff of a charitable institution and its governing body. No doubt these relations vary considerably in different institutions; but the great majority of cases must bear a strong resemblance to this one, where the post of medical officer is purely honorary, conferred by an appointment to which the appointee can hardly be said to be a party, which, therefore, is not strictly in the nature of a contract, and which, whether made for a definite period or not, is expected to operate for an indefinite time—for so long, indeed, as the medical officer continues able and willing to sustain the position. It is now settled, upon the authority of this case, that in these circumstances the body appointing can cancel the appointment, and apparently upon the narrowest imaginable grounds. But this remark is founded upon the judgment of the Court, not upon the facts of the case, for we do not propose to express any opinion at all as to whether the action of the defendants in this proceeding had been based on adequate or on insufficient grounds. The doctrine of the Court was thus stated by the presiding judge: "As medical officer he would have a licence to use certain rooms and certain furniture in the hospital. He would have *only a licence, and not an interest in the property*. It followed from that that, whether the relation between the plaintiff and the defendants was a contractual relationship or not, the relation was a strictly personal relation. Even, therefore, assuming that the defendants committed a wrongful act in putting an end to that personal relationship, the authorities were clear that the plaintiff was not entitled to an injunction. The plaintiff must bring his case within the

principles upon which Courts of Equity will give such relief. Assuming, then, that there was a contract here, Courts of Equity never dreamt of enforcing by injunction agreements that were strictly personal in their nature." And in delivering a concurring judgment, Lord Justice Fry remarked that "enormous inconvenience would be occasioned if Courts of Equity were to enforce the continuance of strictly personal relations when those relations had become irksome, and enforced them under penalty of imprisonment for contempt of court. That would be too gross an interference with the liberty of the subject, and upon that ground Courts of Equity had refused to enforce them. The position of the plaintiff was twofold. He was a subscriber to the hospital and so a governor, and that position was not interfered with. He was also a medical officer. It was not necessary to consider whether the appointment constituted a contract with him or not. But if it did, it created a purely personal relationship."

SHAKESPEARE AND MEDICINE.

STUDENTS of the antiquities of medicine will find some interesting observations on this subject in a paper by Mr. L. M. Griffiths of Bristol, entitled "Shakespeare and the Medical Sciences." The period in which the national mind in this country was emerging from the dim light of mediæval times into the clear and increasing brightness of the revival of learning was naturally not at first remarkable for progress in scientific discovery, unless we take into account the achievements of navigation. The gain at that time and for long afterwards was chiefly on the side of letters. Medicine and surgery, standing almost alone as representing science, maintained an uncertain struggle for existence and reputation. The position of their votaries appears to our modern ideas hardly credible. Debarred from the means of acquiring by dissection a knowledge of anatomy, and deriving their scanty knowledge of treatment from the teaching of a hazy empiricism mixed with superstition, it was hardly to be expected that they should command public esteem by the success of their curative efforts. Our great poet himself does not seem to have recognised in their attempts any promise of future greatness. Notwithstanding that medical allusions are pretty freely scattered throughout his works, comparatively few of these refer either to the practitioner or his art in terms at all complimentary; while, on the other hand, references of an opposite character are not uncommon. The descriptions of Pinch, "the hungry, lean-faced villain," and of Dr. Caius, the boastful charlatan, in the "Merry Wives of Windsor," do not flatter irregular practitioners. Apparently the *bonâ-fide* physician does not stand in more honourable esteem, for Timon says to the banditti—

> "Trust not to the physician;
> His antidotes are poison, and he slays
> More than you rob."

Lady Macbeth's doctor of physic, however, is presented in a somewhat more favourable light. He is careful and candid, and, while recognising the case of his patient as needing more the divine than the physician, shrewdly advises those who wait upon the unhappy maniac to

> "Remove from her the means of all annoyance,
> And still keep eyes upon her."

Have we progressed greatly beyond this point in our present treatment of lunacy? A significant feature of these Shakespearian records of medicine is the frequent mention made in them of the examination of urine. It seems to have been a principal part of the practitioner's office to inspect the renal excretion of his patients, and, with little or no further information, to decide upon his malady—an obviously fallacious proceeding. As we look back upon the groping and unskilful movements of the medical mind in those days we cannot but feel a sympathetic and respectful pity. It is not unnatural that the great poet should show pity but little mingled with respect. We may, however, confidently state that, had he been able to forecast the future of medical science, he would not have been slow to appreciate the greatness of its aims and the deserving energy of those who have promoted them.

FOREIGN BODIES IN THE BRONCHUS.

THE case reported by Dr. Cheadle and Mr. Thomas Smith to the Medical and Chirurgical Society at its last meeting was an extremely satisfactory one. From a surgical point of view there was nothing novel in it except the small detail of stitching the tracheal wound to the skin incision for the tracheotomy—a point upon which two opinions may be fairly held. It was urged that it simplified the introduction of suitable forceps, and so rendered the delicate operation of extracting the foreign body more easy; and that it excluded the blood and other discharges of the wound from the air-passages. But the displacement of parts, the delay in healing of the wound, and the dense nature of the cicatrix permanently adhering to the trachœa appear to be strong reasons against such a procedure. It would seem to be far better, after the foreign body has been extracted, to carefully suture the tracheal wound with fine catgut, and so get a speedy closure of the wound into the air-passages. The external wound should be left open until the tracheal aperture is sealed, and then its edges brought together by strapping. In cases where tracheotomy is done for diphtheria or some more chronic obstruction to laryngeal breathing, Mr. Smith's practice may prove very useful; but where the operation is followed by the instant removal of the respiratory obstruction, the most speedy healing of the tracheal wound is most to be desired.

THE PERILS OF FOOTBALL.

WE are glad to see that one of the sporting journals has at last had the good sense to recognise and the courage to point out the excessive (and surely unnecessary) element of danger which attends football. The *Illustrated Sporting and Dramatic News* of last week said:—"Having regard to the innumerable accidents chronicled in the football field, a good many persons who are not, as a rule, very careful of their bones and skin, have asked whether it will not be necessary sooner or later to revise the rules of that exceedingly popular game, with the view of lessening its danger..... For obvious reasons, football, under the strictest rules, must be a rough game, and we certainly have no desire to see it put down, as several coroners' juries have suggested; but we do desire to see those who are guilty of needless violence dealt severely with by their respective clubs..... Football is essentially a poor man's game. It needs no expensive outfit, and, so far as small local clubs are concerned, it does not call for very serious travelling expenses. Clubs are now so numerous that a weekly match can be brought off within a very small radius from the headquarters of any. It is because the bulk of footballers are, comparatively speaking, poor men, that they should be as exempt as possible from injury. If the man who can afford to take a hunting box and hunt four or five days a week gets laid up for a fortnight, there is no very serious result to anybody; but to a youth learning a trade, to the clerk whose good handwriting is his living, or to the traveller whose calling needs activity and the ability to move easily about, permanent injury to a limb may mean ruin, and a month in bed the loss of salary for a corresponding period. These are no unimportant matters, and though we would not wish the working man, whether he works with his head or his hands, to degenerate into a milksop, we should certainly like to see him indulging in a game which is not made needlessly hazardous. It may be

objected that in proportion to the number of footballers the tale of accidents is small, but we do not think so. Those who interest themselves in the chronicles of the game know that injuries more or less severe are very common—far more so, it appears to us, than in any other pastime; and only a small proportion of cases find their way into the papers." These are sensible words, and worthy of consideration by all who wish well to the game.

"THYROIDIC LEUCOCYTHÆMIA."

M. HAYEM has related the case of a woman, aged sixty-two, in good health until the present illness began. Fourteen years ago, after her last confinement, a swelling of the right lobe of the thyroid gland was observed, which, however, remained stationary till last October, when it began rapidly to augment, until it became voluminous, displacing the œsophagus and trachea to the left, and causing difficulty in swallowing and attacks of impending suffocation. The carotid artery lay in front of the tumour, whose consistence was hard, and did not present a murmur. The cachectic aspect led to the blood-corpuscles being counted, and the discovery was made that besides chronic anæmia, there existed a considerable augmentation—70,000 per cubic millimetre—of white blood-corpuscles. The liver was not enlarged, neither was the spleen nor any of the lymphatic glands. M. Hayem makes the inquiry whether this increase in the number of white blood-corpuscles should justify the employment of the term "thyroidic leucocythæmia." A certain degree of leucocytosis usually accompanies the growth of some malignant tumours, no matter what their situation, and the same kind of increase in white blood-corpuscles is observed in phthisis, empyema, and other inflammatory diseases irrespectively of site; but the degree of leucocytosis in Hayem's case is much above the level usually found in such cases of leucocytosis.

HIGH DEATH-RATE IN NEWCASTLE.

THE high rate of mortality prevailing in Newcastle-upon-Tyne has for some time past attracted attention, and with a view of further eliciting its causes special commissioners have been engaged by the *Newcastle Daily Chronicle* and the *Newcastle Daily Leader* to inspect and report on the borough. In performing this duty they have evidently received all needed assistance from the borough sanitary department, the medical officer of health, and the borough engineer. The danger belonging to the present situation is stated to be the establishment of a generally low and depressed physical state amongst a large body of the inhabitants, which gives to zymotic and other diseases a power for evil and death which they otherwise would not possess; and it is evident that there are very distinct and tangible conditions of ill-health somewhat widely prevalent in the city. With respect to the sewerage system, nothing very obvious can be found to attach to the method of its disposal direct into the tidal river, but any results which may ensue to those living or working on the banks of the river would be injurious if they were traceable. As to the main sewers themselves, many are old and of huge capacity, and it is certainly most desirable that the rate at which these are being replaced should be expedited. With respect to the minor sewers, no complaint is alleged as to those laid by the present city engineer; but others are ill laid, blocked, and foul; and some, being on the curve instead of in straight lines, cannot even be inspected. Here, again, more rapid progress is wanted in order to get rid of such grave underground dangers. One of the greatest evils in Newcastle evidently lies in the neglect as to privy and refuse accommodation and removal. One of the commissioners very properly condemns the system of double privy with joint ashpit, and urges that if any such structure be permitted it should be a pail-closet contrived so as to ensure comparative dryness of contents. But the water-carriage system has strong advocates, and in view of the arrangements that can now be made as to single closets to secure cleanliness by means of automatic flushing, such closets ought to be within practical reach even of poor-class property. Rain-pipes as sewer ventilators are also rightly condemned, as calculated, amongst other things, to carry foul air into bedrooms and other apartments. The stir that has thus been made will doubtless have a beneficial effect, and it will stimulate the Town Council to proceed more actively than they have hitherto done on the advice of their chief medical and engineering advisers.

THE SOLUBILITY OF MEAT.

DR. N. PAVLOVSKI, who has just published a number of experiments made in Professor Dobroslavin's laboratory in St. Petersburg on the solubility of meat in water, finds that by means of a temperature of 150° C.—under high pressure of course—water will dissolve one and a half times as much of the albuminoid constituents of meat as when the meat is boiled in it under ordinary circumstances; also that the addition of a small quantity of hydrochloric acid increases the amount dissolved to a very marked degree, so that he succeeded in obtaining a solution containing as much as 64 per cent. of the meat. This was effected by boiling for eight hours, in a digester at a temperature of from 150° to 160° C., five grammes of meat with eighty cubic centimetres of water, to which has been added half a cubic centimetre of dilute hydrochloric acid containing 10 per cent. of the gas, or nearly the same proportion as the B.P. preparation. Without the acid only about 16 per cent. of the meat albumen dissolved. Some further experiments were made to ascertain the proportion of acid most favourable to the solution. One or two cubic centimetres, added to eighty cubic centimetres of water, were found to dissolve much more of the meat than a larger proportion of acid. Thus with eight cubic centimetres of the acid only 5% per cent. was dissolved, and with fifteen cubic centimetres only 48 per cent. A similar effect is observed in gastric digestion, where too large a proportion of hydrochloric acid arrests digestion, and the process can only be made to recommence by the neutralisation of part of the acid.

SQUATTERS IN LONDON.

IN spite of the Mansion House Committee, of Parliamentary committees, of pondrous blue-books, public speeches, agitations, newspaper reports and articles, it seems as if but little progress has been accomplished in the vexed question of the housing of the poor. The state of No. 141, Flood-street, Chelsea, as described at the Westminster Police-court, indicates how far we are from the solution of the problem. The ground floor of this house is dismantled, the doors are torn down, the partitions gone, there is no sanitary accommodation whatever, there is no water, the roof is entirely removed, the house is condemned and half pulled down, yet several families have chosen to live amid these ruins. In one small room there are no less than six persons—three adults and three children. Well might the "amateur casual" write about "the wilds of London," for all these persons are "squatters," and, like the squatters in the Far West, stubbornly refuse to leave the spot on which, without asking leave, they have elected to dwell. That in this wintry season so many people should be willing to live in such an unsuitable and half-demolished house shows to what straits the poor are driven. On the other hand, the fact that neither the sanitary inspector, nor Earl Cadogan

(the owner of the premises), nor any of the persons concerned care to eject these poor people is also a clear proof that they consider the stress of circumstances to excuse to some extent the altogether illegal action of the "squatters." As creating nuisances and as trespassers the occupants of the house might at once be removed, but the solicitor in charge of the case remarked that it was rather a strong thing in these days for a landlord to eject by force, and consequently the matter was allowed to drop. If there were not notoriously the very greatest difficulty in finding suitable lodging accommodation for the poor, such leniency would certainly not be displayed and could not be tolerated. The tenements available for artisans and workers in regular employment have been somewhat improved during recent years, but it is the unstable "residuum" of society that causes the principal sanitary grievances and that most urgently needs the intervention of philanthropist and legislator. The housing of the poor—of the extreme poor,—notwithstanding all that has been said on the subject, has not been extensively facilitated, and this is once more clearly demonstrated by the revelations made concerning the state of affairs in Flood-street.

LEAD POISONING AT SHEFFIELD.

THE recurrence of lead poisoning in Sheffield is a matter of serious importance. A number of medical practitioners in the borough have multiple cases under their care; in some instances entire households are stated to be suffering; and the epidemic seems to be on the increase. It will be remembered that a similar occurrence took place in Sheffield during the summer of 1885, and that Dr. Sinclair White prepared an exceedingly able report on the whole subject. He was able by careful inquiry to show that the public water service was the cause of the outbreak, and that the mischief was confined to the consumers of water from a certain reservoir supplied from the hills around Redmires. This Redmires water is collected from moorland containing peat in somewhat considerable quantity; and, as the result of an exhaustive investigation into all the circumstances, the conclusion was arrived at that the ulmic and humic acids formed by the decomposition of vegetable matters, such as leaves, peat, and mould, must have operated on the lead service pipes so as to bring about the lead poisoning. It was also assumed that the drought which preceded the occurrence had conduced to the result, because the collecting ground had remained longer unwashed than would have been the case during rainy weather, and because water lying in contact with the decaying heath and peat for longer periods than usually had opportunity of taking up an exceptional amount of these acids. The observations made by Professors Crookes, Odling, and Tidy as to the influence of silica in protecting pipes in the case of the Huddersfield water will also be fresh in the memory of our readers. The two occurrences awakened great interest in the subject of lead poisoning by potable water at the time, and the Sheffield corporation, in applying last year for Parliamentary powers to acquire the waterworks for the borough, urged that the Redmires water possessed the property of taking up lead in leaden pipes and cisterns, and the water company, in their unsuccessful Bill, asked for power to supply filtered water. Whether filtration by the aid of materials containing silica will, under all circumstances, act as a sufficient preventive, can hardly as yet be regarded as proved; but it certainly behoves the corporation, now that they are in possession of the works, to take such steps as may be necessary to prevent the recurrence of these repeated prevalences, and, if need be, to institute further inquiry into the conditions affecting the periodic outbreaks that have taken place in Sheffield. In the meantime, iron pipes, and cisterns of other material than lead, have in certain instances been substituted for the leaden ones; and since it is only at the distal end of the water service that the mischief arises, these steps have been found to remedy the evil as far as the individual houses affected by the alterations are concerned.

RUPTURE OF UTERUS.

AN inquest was held by Dr. Danford Thomas at Islington on Jan. 4th touching the death of Elizabeth Randell, a married woman, aged about forty. The deceased, who had borne numerous children, was taken in labour the day before her death. Dr. Kane and a midwife were in attendance. After waiting for six hours, during which time little progress was made, as the labour pains were slight, Dr. Kane attempted to deliver with the aid of the short forceps, but failed. He then gave deceased some opium to obtain rest. About twelve hours after the forceps were applied deceased complained of pain in the abdomen. This continued more or less until her death ten hours later; consciousness was retained almost to the last. At the post-mortem examination, conducted by Mr. Pepper, there were present Professor John Williams, and Drs. Glover and Kane. A large irregular rent was discovered in the uterus at the posterior part. It was situated about the junction of the body and cervix. The arms of the child had protruded through the aperture into the peritoneal cavity, in which was a quantity of blood. The placental attachment was normal. The occiput of the child was wedged under the pubes. The brim of the true pelvis was slightly narrowed. The child, a male, weighed eight pounds. The medical men present were agreed in the opinion that the rent in the uterus had arisen spontaneously, and that it was out of reach with the *short* forceps. This was supported by the fact already mentioned, that the pain in the abdomen came on several hours after the instruments were used. The jury returned a verdict in accordance with the evidence.

SMALL-POX IN THE NORTH.

THE Sheffield epidemic of small-pox is still causing much anxiety, and Dr. Barry has been instructed to report to the Local Government Board on the whole history of the occurrence. The report may, we trust, make it clear how far such epidemic occurrences can in their early stages be best dealt with; to what extent hospital isolation may be expected to control small-pox without endangering the public health at the same time; and other matters. Some extension of the disease has occurred in Chesterfield, in the rural district of Warrington, in Nottingham, in Salford, and in Staleybridge; the spread being especially serious in the last-named place.

CLUB PRACTICE IN PARIS.

A FEDERATION of clubs and similar societies in Paris has been formed under the title of the "Union Médicale des Sociétés de Secours Mutuels du Département de la Seine," with the object of cheapening medical attendance. A large number of practitioners have received a circular inviting them to become members of the medical staff of the Union Médicale. Some extracts from the rules of this body are enclosed, from which it appears that the annual remuneration is fixed at 2 francs per head in the case of adults and 1 franc only for children under sixteen years of age. The amount is to be paid quarterly. Medical officers must visit members as soon as possible after being sent for; they must examine candidates for admission. They must, in case of sickness or absence, find a substitute, and three months' notice must be given of retirement. It is somewhat difficult to understand on what ground children are to be attended for half the

price of adults, as they are sure to require a great deal more of a medical man's time than the latter. In this country, where club payments generally include medicine, the smaller allowance for children is sometimes justified on the ground that they require smaller "bottles of physic," which the public can hardly be persuaded to look upon as of the same value as larger "bottles." The extremely low rate of remuneration, 1*s.* 8*d.* for an adult and 10*d.* for a child, makes one ask, Will Paris practitioners really accept such terms? *Le Practitien*, commenting upon the scheme, seems to think there is no doubt that men just qualified and some necessitous practitioners will do so. It even hints that some who are fond of politics may think this kind of practice would give them favourable opportunities of propagating their views!

FEVER IN LONDON.

THE patients admitted during last week into the Metropolitan Asylums Board hospitals consisted of 154 suffering from scarlet fever, 21 from enteric fever, and 3 from small-pox, two of the latter being removed from Mile-end Old Town, and one from St. Pancras. The Local Government Board have now approved of plans for a hospital for convalescent small-pox patients at Darenth, and have suggested that, in view of the risk of an epidemic, it would be well to erect some wooden huts for use until the brick buildings were ready for occupation. Fortunately at the present time there is no serious demand for accommodation for this disease, but it is still possible that an increase of small-pox in the metropolis may during this year require more beds than exist on the hospital ships. It is satisfactory to be able to note that the difference of opinion between the Local Government and Metropolitan Asylums Boards with regard to the hospital at Darenth is now ended, and that the Managers will be able to provide the accommodation to the extent that may be required.

THE BRITISH NURSES' ASSOCIATION.

THE announcement made at the end of last week that four well-known City merchants, Messrs. J. S. Morgan, Hambro, Gibbs, and Rothschild, had, under certain restrictions, agreed to find £20,000 as Government security for the establishment of a National Pension Fund for Nurses and Hospital Officials, clearly shows how much interest the wealthy public would take in such an association were they assured that the beneficial scheme promoted was fully approved by the great body of working nurses throughout the United Kingdom. It must be remembered that the nurses have to join as benefit members; and we believe, as the scheme now stands, they will have to pay about £6 a year to the Fund. We will not, however, at present enter into the minutiæ of this scheme, but we must remind our readers that there are two such institutions at present in the field—the one to which we have above alluded, and another, the British Nurses' Association, promoted by H.R.H. Princess Christian, and supported by Mr. Savory, the President of the Royal College of Surgeons, and many other leading medical men. Mr. Savory, it may be remembered, was chairman of the meeting the proceedings at which we reported last week, and at which Mrs. Bedford Fenwick read a paper which fully detailed the scheme, to which the majority of the matrons of the leading metropolitan hospitals have promised their support. This Association, it is positively stated, is to be governed by the nurses themselves, guided by representative members of the medical profession, and not, as Mrs. Fenwick aptly put it, by "outsiders." This being the case, it is very necessary for nurses to decide which association they will join. The definition of "what is a nurse" must also be settled, as was suggested by "F.R.C.S." in a letter to *The Times* on Wednesday last. The British Nurses' Association has, we understand, been formed exclusively in the interests of nurses. The question, by the way, whether the "officials" of hospitals should be allowed to participate in the benefits of such a fund as the munificence of the gentlemen named above has made possible is one that certainly cannot be determined offhand, as appears to have been done. The term is a most indefinite one and a great deal too comprehensive. The interest taken in the British Nurses' Association by H.R.H. Princess Christian is abundant proof of the worthiness of this Association as a recipient of support. Her Royal Highness proposes to be a working member of its executive committee—a fact that will be hailed with satisfaction by all who are acquainted with the energy and real business capacity the Princess has always displayed in the conduct of the various charitable and philanthropic societies with which she has hitherto been associated.

THE ADVANCEMENT OF SCIENCE.

A BEQUEST of Mr. Richard Berridge, late a partner in Meux's brewery, is to be applied to the advancement of economic and sanitary science; the sum left for this purpose amounts to £200,000. There is no information as to the exact manner in which this money is to be utilised, but we would gladly see it employed in obtaining knowledge which would be useful to the whole country. Our ignorance of the causes of infectious disease often leads to large expenditure for the maintenance of hospitals, which would be unnecessary if we knew better the etiology of maladies of this nature. For example, if Mr. Berridge's bequest were devoted to the study of the relation existing between diseases of the lower animals and of man it would make ample return. The paper which Dr. Klein has just read before the Epidemiological Society shows how much need there is for this work to be continued, and there are many kindred subjects for which better knowledge is much needed, and in the study of which this money could be usefully employed.

THE CAMBERLEY POISONING CASE.

AT the Central Criminal Court last week, Henry Bowles was, after a trial lasting two days, found guilty of the murder of his housekeeper by poison, and was sentenced to death. The judge summed up strongly in the prisoner's favour, but the jury, after two hours' deliberation, expressed themselves as unable to agree. Their discharge was refused, and after a further retirement of fifty minutes they returned into court with a verdict of guilty. The prisoner was sentenced to death, no hope of mercy being held out to him. The case has been brought under the notice of the Home Secretary, and, under the circumstances, seems worthy of reconsideration. We shall probably refer to the matter at greater length in our next issue.

TREPHINING IN DAGHESTAN.

THE mountaineers of Daghestan have a custom of trephining which they carry out under all manner of circumstances—very often when it is not in the least necessary. The operation is performed not only for injuries to the skull and for headaches, but sometimes apparently on the principle of "cutting off one's nose to spite one's face"; it is submitted to by a person who has received a blow merely in order that the man who inflicted the injury may have to pay the operator, which, according to native custom he is obliged to do! It will be gathered from this that neither the patient nor the operator appears to dread the

proceeding at all, and it seems to be a wonderfully harmless one in these people's hands. No trephine is used, but a narrow gouge with its angles rounded off is made to serve instead. An incision is made through the integuments and the bone scraped or gouged away with the instrument. Finally, the edges of the bone are pared and trimmed with nippers, and afterwards the wound is allowed to cicatrise over, which it usually does without any difficulty. Dr. Krivyakin, who has written an account of this strange custom in a Russian military medical journal, says that the patient lies very quiet during the operation, and that there is no pain while the gouging process is going on!

RIVER POLLUTION.

THE pollution of the river Tees has been the subject of discussion by Dr. Manson, a member of the Town Council of Darlington, who visited Barnard Castle last June, and examined the bed of the river just below that town. He found the bed composed of hard rock, so that any deposit remained there until the flood could remove it. On to this bed was poured refuse of the privies and middens of houses, as well as from sewers and manufactories; and at the time of his inspection there were pools of decaying sludge, mounds of matter, and heaps of house refuse. Sixteen miles lower down the river, is the town of Darlington, and he objected to drinking slops, even if they had been oxidised. There is no doubt this condition constitutes a very serious risk, and better means for preventing the pollution of rivers is an urgent necessity.

NON-CALCULOUS ANGIOCHOLITIS.

HEPATIC suppuration may be due to many causes, and the channels of infection may be as numerous as the tubes entering the liver. M. Ferrand has recorded the case of a tailor, aged thirty-nine,[1] who had been dyspeptic for two years, with increasing constipation and enlargement of the abdomen. Sudden attacks of pain and vomiting, with melæna, fever, and tender enlargement of the liver, were the chief clinical signs during the last month of his life. The necropsy exhibited a dilated stomach with slight ulceration of the large curvature near the pylorus. The liver was voluminous, presenting slight projections of its parenchyma, of dark-red colour. The section showed a multitude of disseminated abscesses varying in size from a hen's egg to a pea; the largest made a cavity at the root of the Spigelian lobe, and its walls were blackened, tomentose, and gangrenous. The majority contained a yellow-ochrous fluid, evidently composed of biliary matter; the gall-bladder appeared intact and filled with a similar liquid; nowhere could a calculus be discovered; the hepatic substance between the abscesses was of a red and granular aspect, due to a commencing cirrhosis. The case was therefore described as hepatitis with suppurative angiocholitis leading to peritonitis and melæna; the portal system appeared to be innocent of infection.

INADEQUATE PENALTIES FOR ADULTERATION.

DR. SEDGWICK SAUNDERS has done good work in drawing the attention of the City Commissioners of Sewers to the ridiculously insufficient punishment bestowed by City magistrates on milk vendors convicted of fraud. In two recent instances it was found that 33 and 30 per cent. respectively of water had been added to the milk, and yet the Alderman presiding in the Court inflicted only fines—in the first case of 20s., and in the second of 10s. Such trivial sentences are utterly useless, and tend to bring the Act of Parliament into contempt. The nefarious profit of 30 per cent. will pay the fine in an hour or two, and the dishonest tradesman can well afford to laugh at the inspector and the public analyst. It is one of the greatest defects of the present law that a magistrate may, by ill-timed leniency, defeat the objects of the Legislature, and mutiply the work of the public analyst.

[1] Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, No. 21, 1888.

ROYAL COLLEGE OF PHYSICIANS.

THE following announcement respecting the delivery of the courses of several lectures at the College has just been issued:—The Milroy Lectures will be given by Inspector-General Lawson on Feb. 21st, 23rd, and March 1st; the subjects being "Epidemic Influences," "Epidemiological Aspects of Yellow Fever," and the "Epidemiological Aspects of Cholera." Dr. Mickle will deliver the Gulstonian lectures on March 6th, 8th, and 13th; subject, "Insanity in relation to Cardiac Disease and Phthisis." The Lumleian, by Dr. W. H. Dickinson, will deal with the question of "The Tongue as an Indication of Disease," and will be delivered on March 15th, 20th, and 22nd.

THE CLINICAL SOCIETY.

AT the general meeting of the Society, held last week, it was announced that Dr. Ord had most generously contributed £100 towards defraying the heavy expenses of the investigation into the pathology of myxœdema, a subject with which his name is indissolubly connected. The report of the President and Council showed the flourishing state of the Society. The vote of thanks to the retiring honorary secretary, Dr. Stephen Mackenzie, was worthy of the occasion.

IODOFORM AND TUBERCLE.

IODOFORM, though an excellent antiseptic and bactericide for some purposes, is, according to Rovsing of Copenhagen, useless as a destructive agent of tubercle bacilli. He has found that the growth of tubercle is in no way retarded by the presence of a very considerable quantity of iodoform. He has more than once inoculated the two eyes of a rabbit with pure and iodoformed tubercle respectively, and has invariably found that the morbid process was communicated to the eye containing the iodoformed tubercle some time before the other was affected, the irritation produced by the iodoform in the tissues appearing to cause them to form a more suitable soil for the development of tubercle than those of the other eye, which were not similarly exposed to irritation.

THE LIVER THE EXCRETORY ORGAN FOR IRON.

THE way in which iron introduced into the body is excreted being somewhat obscure, Dr. Zaléski of Dorpat has endeavoured to clear up our knowledge of the subject by some very carefully planned experiments. He first took two rabbits of the same litter, as nearly as possible of the same colour and weight, and reared them under similar conditions, taking care that they had access to no food or drink containing any iron. When they were ten weeks old they were kept without food for four days, being allowed water only. Into the jugular vein of one of them was then introduced three cubic centimetres of a solution of sodio-tartrate of iron, containing 0·0096 gramme of metallic iron. No symptoms of acute poisoning occurred during three hours. At the end of that time the carotid artery was opened, and as much blood as possible removed. The whole vascular system was then thoroughly washed out by means of a special apparatus which is used for this purpose in the Strassburg Pharmacological Institute. The liquid employed was a warm weak solution of sugar, which was introduced into the aorta and allowed

to run out from the portal end. This washing out was continued till the red tint of the muscles and other organs had disappeared so completely that the spectroscope detected no hæmoglobin lines. The other rabbit was also deprived of blood in precisely the same way. The organs of the two animals were then examined chemically, and the iron contained in them accurately estimated by the volumetric method. The result showed that the only organ in which the percentage of iron was markedly increased in the animal into whose system the sodio-tartrate had been introduced was the liver, the dry substance of the organ containing 0·0098 and 0·1723 per cent. of iron in the two animals respectively. A similar research was subsequently carried out in the case of two kittens. Here the livers contained respectively 0·0431 and 0·0895 per cent. of iron, most of the other organs showing more iron in the animal into which none had been introduced than in the one in which the sodio-tartrate had been injected. The most remarkable instance of this was the muscular tissue, which in the kitten that had had no iron showed a percentage of 0·0206, and in the one which had had iron only 0·0073. Of this curious fact Dr. Zaléski does not see his way to offer any explanation, and it certainly appears somewhat paradoxical. In both the rabbits and kittens it was plainly demonstrated that the walls of the stomach and intestines contained no more iron in the animals which had been subjected to the intravenous injection than in the others. The result of the research would appear to suggest that the liver has some claims to be considered the excreting organ for iron.

SMALL-POX IN YORKSHIRE.

WITH reference to the outbreak of small-pox in Barnsley and its neighbourhood, at a meeting a few days since of the guardians of the Barnsley Union, sitting as the Rural Sanitary Authority, an agreement with the Barnsley corporation was signed and sealed, by which all cases of small-pox occurring within the sanitary district will be received and isolated in the Infectious Diseases Hospital owned by the corporation of Barnsley. It is proposed to use this hospital as the nucleus for any temporary buildings which the exigencies of the epidemic may render necessary. The union or registration district of Barnsley includes five urban sanitary districts, in addition to the borough of Barnsley and the rural sanitary district of Barnsley. It is stated that the authorities of all these sanitary districts, excepting one, have joined in the above-mentioned agreement with the corporation of Barnsley, the only alternative to which appears to be to admit small-pox patients to the fever wards of the union workhouse—an arrangement which experience has proved to be undesirable, and even dangerous.

MARGATE AND ITS SEWERAGE.

WE are glad to notice that a very decided attitude is taken by the *Ramsgate and Margate Chronicle* as to the need for a system of sewerage in Margate, in replacement of the cesspool system. In an article published in that paper, it is estimated that there are probably some 3500 cesspools, into each of which about 100 gallons are discharged every day when the houses are occupied. If the cesspools were watertight, they would, on an average, have to be emptied every two or three weeks; but being permeable, 350,000 gallons of filth are received into the chalk stratum every twenty-four hours; and it is very properly contended that a soil receiving this stuff can hardly be one which can form "a bait for visitors" or "a platform to plant a flag on." Fortunately there are other indications that this reproach will before long be removed from a seaside resort which has naturally some of the highest claims to favour on account of health-giving qualities.

THE CROWN PRINCE OF GERMANY.

WE hear from a reliable source that the Crown Prince is progressing favourably. The reports which appeared in the lay journals this week have been perplexing and contradictory, and one of the French newspapers contained a most alarming statement to the effect that fresh symptoms of cancer had shown themselves, and that the disease was rapidly developing. It appears that on last Saturday his Imperial Highness became affected with a feverish cold, and the temperature was slightly raised on Sunday and Monday; on Tuesday, however, it became quite normal. We are glad to learn that the general health continues excellent, and that the Crown Prince is looking forward with great pleasure to his return to Potsdam in the spring.

THE HÆMOGLOBIN IN CHLOROSIS.

DR. O. BARBACCI, of Berlin, found by using Fleischl's hæmometer in a number of chlorotic patients that the hæmoglobin varied from 30 to 50 per cent. of its amount in health. After from two to four weeks' treatment with iron the patients all exhibited a marked improvement in their general condition, and at the same time the hæmoglobin was found to have increased from 10 to 30 per cent. It then appeared to remain stationary, the normal amount not being reached even after a long course of treatment and a very great improvement in general health.

MEDICAL AID ASSOCIATION IN NEWCASTLE AND GATESHEAD.

THE *Newcastle Daily Leader* announces the formation of a Medical Aid Association for Newcastle and Gateshead. The particulars given by our contemporary are limited. But those given do not look very promising. Eight medical men are said to have joined the association. Threepence a week is to provide for attendance on a whole family. This is an utterly inadequate sum, which we trust will be reconsidered. The low compensation of medical services in these institutions is bringing them, and threatens to bring the provident principle itself, into discredit throughout the country. We hope the medical men of Newcastle and Gateshead will consider this question, and insist on terms more respectful to the profession.

INTRA-MUSCULAR LIPOMA.

EXCEPTIONALLY lipomata may develop in organs normally wanting in cellular adipose tissue. Their presence has been noted in the nerve centres, in the spinal cord, and in the thickness of muscles, even in the midst of the muscular fibres. These intra-muscular fatty tumours are more common in men than women, and are chiefly found in very active muscles, like the tongue, the heart, and the sartorius. M. Ribet has collected in his Parisian thesis many interesting observations on these tumours.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Georg Frank, first assistant in the Hygienic Institute, has been appointed to take charge of the bacteriological department of the zoological station in Naples. His post has been filled by the appointment of Dr. C. Fränkel.

Innsbruck.—Dr. Jarisch of Vienna has been appointed Extraordinary Professor of Dermatology and Syphilis.

Strassburg.—Professor Naumyn of Königsberg has accepted the appointment of Professor of Medicine in Professor Kussmaul's place.

MR. H. D. ROLLESTON, B.A., of St. John's College, has been appointed Demonstrator of Pathology in the University of Cambridge.

WE regret to record the death at Shanklin, Isle of Wight, in the seventy-first year of his age, of Dr. Giraud, Inspector-General of Her Majesty's Bombay Army. The deceased received his professional education at the University of Edinburgh, and, after graduating in honours, entered in 1842 the medical service of the East India Company. Within a few years Dr. Giraud filled the post of Professor of Chemistry and Botany, and afterwards that of Principal of the Grant Medical College, Bombay; he was also Chemical Analyst to the Bombay Government, and in 1863 Syndic and Dean of the Faculty of Medicine in the University of the Province.

AS M. Cazeneuve, Professor of Toxicology in the Medical Faculty of Lyons, was pursuing his researches in his laboratory one day last week, a test tube burst and several pieces of the broken glass wounded him in the face. The cornea of the right eye was perforated by one fragment, which Professor Gayet was able to extract from the anterior chamber by performing iridectomy. Unfortunately the inflammation spread to the lens, which began to become opaque and swollen, and it is feared that the eye will have to be excised.

AN adjourned public meeting of the members of the Leicester and Leicestershire Dispensary was held under the presidency of the Rev. A. A. Isaacs. He criticised the management of the dispensary, and the nature of the drugs supplied. The resolutions passed at previous meetings were confirmed. A resolution requiring detailed accounts to be published was carried. So also was another demanding direct representatives of members on the Board of Management, to the number of five.

WE are requested by the honorary secretaries of the Association of Members of the Royal College of Surgeons to state that the dinner of the Association will be held at the Holborn Restaurant on Tuesday, Jan. 31st, at 7 P.M., following upon the general meeting at 6 P.M. of that date. A clerical error on the part of the printers of the circular of the Association renders this notice necessary to prevent confusion.

IN addition to the candidates for the Chair of Obstetrics in the Owens College mentioned by our Manchester correspondent last week, we learn that W. Walter, M.A., M.D.Dub., surgeon to St. Mary's Hospital for Women and Children, also aspires to fill the vacancy.

M. DE BERDT HOVELL, in a paper to be read on the 25th inst. at the Hunterian Society, is to continue his efforts to abolish the word "hysteria" and all the practices attaching to theories of hysteria. The subject is one of great interest, and we hope it will be well discussed.

A PUBLIC conference on the Sanitary Registration of Buildings Bill is to be held at the Society of Arts, John-street, Adelphi, on Saturday, Feb. 4th, 1888. The chair will be taken at 4 o'clock by Sir Joseph Fayrer, K.C.S.I., M.D., F.R.S.

MR. HURRY FENWICK will demonstrate the most improved forms of urethral and vesical electric lamps, and the value of electric lighting in diseases of the bladder and urethra at the next clinical meeting of the Medical Society, Jan. 23rd.

DR. C. J. CULLINGWORTH of Manchester was appointed Obstetric Physician to St. Thomas's Hospital on the 18th inst., in succession to Dr. Gervis, who has been appointed Consulting Obstetric Physician.

THE Grand Duke of Hesse has conferred on S. H. Tatham Armitage, M.D., the silver Alice Medal, in recognition of his valuable services to the Association of German Governesses, Wyndham-place.

OUTLINE SCHEME FOR A TEACHING UNIVERSITY IN LONDON.

BY BYROM BRAMWELL, M.D., F.R.C.P.E., F.R.S.E.,
ASSISTANT PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY; LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE, AND ON PRACTICAL MEDICINE AND MEDICAL DIAGNOSIS IN THE EXTRA-ACADEMICAL SCHOOL OF MEDICINE, EDINBURGH.

THE application of the London Colleges for powers to grant degrees in Medicine and Surgery is a proposal which concerns in the most direct and vital manner every licensing and degree-giving body in the country, which is therefore of the deepest interest to all who are engaged in medical teaching, and which involves such far-reaching and important consequences to the whole profession that it is, in the widest sense, a general rather than a local question. The proposal, if successful, though it would doubtless prove highly advantageous to the London Colleges themselves, is not, in my humble opinion, calculated to effect the same amount of improvement in medical education as a thoroughgoing Teaching University in the great city of London would do. Impressed with this idea, I have given the subject such consideration as a mere outsider who knows nothing more than he sees in the public prints can do; and I trust that I may not be thought too presumptuous if I venture to lay before the profession an outline of a scheme which seems to me to meet some of the difficulties of the position.

Let me in the first place, however, and by way of introduction, say that I thoroughly and entirely sympathise with the demand of the London teachers and London students for an M.D. degree on reasonable terms. The justice of that demand seems to me indisputable. In proof of this I am in the habit of asking those of my friends here who do not admit the justice of the plea, How would we in Edinburgh feel if our students had to go to London or to another Scotch University—say to a college of medicine at Dundee affiliated to the University of St. Andrews—for a degree? Would we not demand that such an injustice should be redressed? Well, such is exactly the position in London to-day. Personally, then, I thoroughly sympathise with the demand of the London teachers and students; and, further, I am prepared to grant it, as a general proposition, that facilities should be afforded to the students in each teaching centre for obtaining degrees in medicine on reasonable terms (similar, for example, to those on which the degrees of the Scotch Universities can be obtained), provided always that the teaching arrangements in that centre are satisfactory, and that the course of study and the standard of examination are on a par with those of the Universities just referred to. If this general proposition be granted, it must, of course, be allowed that some new degree-giving body in London is required; for no fair-minded man who knows anything about the subject will, I suppose, deny that the present University of London does not meet the requirements of the average medical student, and does not give its degrees on what may be called reasonable terms.

The question which next arises is, Who should give this new degree? Should it be the Royal Colleges of Physicians and Surgeons? Should it be University College and King's College, with the affiliated London schools? Or should a great central Teaching University be established for the purpose? It seems to me that one of the last-named methods is the plan which would ultimately prove most beneficial.[1] But before attempting to find an answer to the most difficult and complicated question, How could a great central Teaching University be carried into practical effect? it will perhaps be well to point out that at present the Universities enjoy the monopoly of granting degrees in medicine, and that this privilege may be re-

[1] I take it for granted that the London University will not reduce its requirements so as to meet the demand for a degree on reasonable terms.

garded as a reward conferred upon them for the functions which they perform as great teaching institutions and as centres of education, learning, and research. If this be so, it may well be questioned whether this degree-giving power should be conferred upon any body which does not fulfil University functions—in other words, upon any mere examining body. And further, it may be asked, Why should the Universities—which, speaking generally, have fulfilled their duties to the public so faithfully, with such signal success, and with such enormous benefit to medical education—be deprived of this privilege, this their just recompense and reward for arduous and long-continued exertions?

In answer to the proposition that degrees should only be conferred by teaching institutions, it may of course be said that the present London University is not a teaching body, and that the very fact that its degrees are so highly estimated completely disproves the proposition. This argument does not carry conviction to my mind. It is, in my opinion, because the present London University has failed to fulfil the functions of a University *for* London—for the London medical students and teachers—that the demand for another M.D. degree and for another University *in* London has arisen. It cannot, I think, be doubted that if the London University had been a great teaching as well as a great examining institution, and if it had been thoroughly in touch with the students and teachers of the London schools of medicine, an M.D. degree suitable for the requirements of the average student would long before this have been provided by it. The fact that the present University of London has failed to fulfil the functions of a University *for* London—in other words, has failed to supply the University wants of London and of the London medical schools (in consequence, as I think, of its refusing to occupy itself with teaching, and because it has been thereby out of touch with the London teachers and London students)—is surely a powerful argument against creating another similar body—a second degree-giving but non-teaching institution in London.

Let me here guard myself against appearing even to be so audacious and presumptuous as to say that the London University has not exercised, and is not exercising, a most potent influence for good upon education generally, and upon (what more particularly concerns us at present) medical education in particular. The high estimation in which its degrees are held, the severity of the standard of its examinations, and the fact that such a very large proportion of its comparatively small number of medical graduates reach the very highest places in the profession, and are those whom we all delight to honour, must necessarily have raised the standard of medical education both in the London schools and throughout the empire generally. But, as has been pointed out by previous writers on the subject, the degrees of the London University must be looked upon as honours degrees. The very severity of its standard of examination, and the lengthened period of study which the student finds it necessary to spend in order to prepare himself for examinations of such severity—and I here refer rather to the preliminary and preliminary scientific than to the professional examinations properly so called,—have placed the degrees of the present London University out of the reach of the average medical student; a fact which is abundantly demonstrated by the clamorous and widespread demand for another M.D. degree which is now in everybody's ears. I may add that to one who lives in Scotland, and who appreciates the enormous influence for good which the Scotch Universities have exerted, and are exerting, on every department of education, it does indeed seem a most extraordinary thing that in London—the largest city in the world—there is no great central Teaching University (in addition to University College and King's College).

In the second place, it must not be forgotten that the London Colleges are not the only licensing bodies in the kingdom, and that, if the power of granting degrees were conferred upon them and the same powers were not given to the Apothecaries' Society and to the Scotch and Irish corporations, a gross injustice would be done to these other bodies. In justice, then, to the other corporations, you must either confer upon them also the power of granting degrees (but this, as I have already pointed out, involves, in my opinion, an injustice—an altogether gratuitous and unnecessary injustice—to the Universities and their graduates), or you must refuse the power of granting degrees to the London Colleges and supply the just demands of the London teachers and students for a degree on reasonable terms through some other channel. The establishment of a thorough-going Teaching University in London seems to me the scheme which is not only most consistent with justice both to existing Universities and to the Royal Colleges and Medical Corporations, but which is likely to afford a much more effectual and permanent settlement of the whole question, and which is much more calculated to exert a beneficial influence upon the science of medicine and upon medical education, both in London and elsewhere.

And here perhaps I may be allowed to state that the belief that the London Colleges have only to obtain the power of granting the M.D. degree in order to deplete the Scotch Universities of their medical students is, in my opinion, a mistake. For my own part, I am firmly persuaded that the success of the Scotch Universities is not so much due to their degree-giving powers as to the thoroughness and completeness of their teaching. Doubtless, if the London Colleges acquire the power of granting the M.D. degree, the competition will be even keener than it is at present; but provided that the Scotch Universities are guided by a wise and liberal policy, and continue to extend and improve their teaching, and to make such alterations in their curriculum and regulations, and such additions to their professoriate as the times require, I for one look forward with confidence to the result.

Any scheme to be thoroughly satisfactory should, in my opinion, endeavour to fulfil the following conditions:—1. It should afford to the London student of medicine a means of obtaining a degree on reasonable terms. 2. It should not interfere with the present position and respective interests of the many medical schools in London. Any scheme which were to place any individual school in a position of advantage is doubtless, from the point of view of the other schools, to be deprecated. 3. It should preserve the present distinction between the Universities or teaching and degree-giving bodies on the one hand, and the corporations or licensing bodies on the other; and it should, as far as possible, conserve the interests of both. 4. It should supply a thoroughgoing Teaching University for London. 5. It should be calculated to elevate (and not to lower) the position of the M.D. degree; and 6, to exert a powerful influence for good on medical teaching and research. Keeping these requirements in view, the scheme which has occurred to me has as its fundamental basis—1. The establishment of a great Teaching University in London. 2. The lengthening of the medical curriculum of *all* the Universities throughout the country from four to five years. I would make it compulsory that all medical students aspiring to a degree in medicine should spend five years in medical study. By this arrangement a well-defined distinction, and one which would be easily understood and duly appreciated by the public, would be made between University graduates (M.D.'s) on the one hand, and licentiates of the Colleges on the other. The M.D. would in consequence become what it ought to be, something more than a mere licence to practise; and the position of University graduates would be distinctly elevated. The Universities would be compensated for the loss, which theoretically they might perhaps be expected to sustain in consequence of their graduates being compelled to spend five instead of four years in medical study, by (1) the increased status of the M.D. and the increased desire on the part of the medical students to acquire the M.D.; and (2) by the fact that in consequence of five instead of four years being required for the M.D. degree, an addition of one-fifth would be added to the fees of the professors. If such a scheme were adopted, it is, I think, a question whether the present degree of M.B. should be retained; whether, in short, it would not be advisable to confer the M.D. degree upon the University graduate on the passing of the Final Examination at the termination of his fifth year of study.

The question also arises whether (in order to meet the demands of those members of the profession to whom facilities for obtaining an M.D. degree on reasonable terms have not been hitherto afforded) *all* Licentiates of the corporations (using the term Licentiate in a general sense to include Members of the Royal College of Surgeons, Licentiates of the Royal College of Physicians, &c.) on the Medical Register before the proposed alterations in the regulations should come into force should not be afforded an opportunity of acquiring the M.D., by passing an examination, both practical and theoretical, in medicine, surgery, and midwifery. If such a proposition were deemed advisable, *all* the Universities should be empowered, should they desire to do so, to institute such an examination; the standard of

the examination should be sufficiently high to enable the M.D., obtained in this manner, to rank as a University distinction; and in order to guarantee a sufficiently high standard, all examinations for such degree should be visited by inspectors appointed by the General Medical Council. It would also, I think, be desirable to insist that registered Licentiates, before becoming entitled to present themselves for this examination, must have been a certain number of years (say ten) in practice.

The lengthening of the period of study required for a University degree would, in my opinion, be an immense advantage from an educational point of view. All who are engaged in the teaching of medicine will probably allow that the extraordinary development which has taken place in every department of medical science during the past twenty years makes it extremely difficult, in fact well-nigh impossible, to embrace all the subjects which are required for a University degree in a four years' curriculum. Year by year the necessity either of lengthening the curriculum, or of excluding some subjects (such as Chemistry, Botany, and Natural History) from the purely medical course becomes more and more apparent. And if there is the same extension of knowledge and development of new departments (such as Bacteriology) during the next as there has been during the past twenty years—and there is every reason to suppose that such will be the case—the impossibility of including all the subjects which ought to be included in a University medical course is obvious. Add to this the facts that some subjects which are now optional (such as Insanity and Diseases of the Eye) ought to be made compulsory, and that it is highly desirable that students aspiring to degrees in medicine should have something more than a mere smattering of Physics, and the need for an extension of the University medical curriculum becomes still more apparent.

Stated more in detail, my idea of a great central Teaching University in and *for* London is as follows: 1. The University should embrace all the Faculties (Medicine, Science, Arts, Education, Law, Theology, &c.), and should be not merely a federation of the present educational establishments, scattered in different parts of the great city of London, but it should be—or each Faculty at all events should be—a complete, central, teaching institution, provided with all the necessary buildings, lecture-rooms, laboratories, &c., which such a great teaching establishment would require. 2. Each Faculty should be represented by a complete professoriate, such as is found in the great teaching Universities elsewhere. 3. To this great central University the various schools of medicine and such other educational establishments at present existing in London, as it might be thought desirable, should be affiliated as Colleges, or perhaps incorporated in some more intimate manner. The scheme is a gigantic one, and some may perhaps think that its very magnitude makes its realisation a practical impossibility—in fact, it may be scoffed at as a mere dreamer's Utopian idea. For my own part I think differently. I argue that, if a comparatively poor country like Scotland has been able to afford and to provide three great teaching Universities, London, the capital of the Empire, with its untold wealth, would, if it only realised the necessity and braced itself up to a determined effort, have no difficulty in providing the funds required for founding, building, and endowing a great central Teaching University (in addition to University College and King's College, which may, I suppose, be regarded as of University rank) for its enormous population, which outnumbers, be it remembered, that of the whole of Scotland put together. To what more important object, I would ask, could the great city companies devote their abundant resources? The Chancellor of the Exchequer might reasonably be called upon to contribute largely. And the public, who have every now and again subscribed many thousands of pounds to meet the needs of a single hospital, would, I cannot doubt, if the necessities of the case were made apparent, and if only intelligent opinion would make a unanimous demand upon its beneficence, provide hundreds of thousands instead of thousands of pounds for an object of such far-reaching and national importance.

For the practical realisation of the scheme it would probably be advisable to commence with the Medical Department, since the demand for the M.D. degree is pressing. And here it may be pointed out that it is not necessary, nor, perhaps, is it advisable, that all the different Faculties should be housed in the same building. In Edinburgh, the separation of the medical from the other departments of the University is found to work well in practice, and there seems no reason why some of the other Faculties of a great University should not be located in separated buildings. By this arrangement, which presents other obvious advantages, the difficulty of obtaining, except at a prohibitive price, a suitable site would be greatly lessened.

The constitution of the Medical Faculty and its relationship to the medical schools of London might be arranged on some such plan as the following:—

1. The Medical Faculty should consist of a complete staff of professors, such as exists in the great medical teaching Universities in this country and abroad.

2. The professorships should be thrown open to all English-speaking people, and the salaries of the professors should be sufficiently large to attract the most able and experienced teachers and investigators.

3. To the Medical Faculty the schools of medicine at present existing in London should be affiliated as Colleges, or, if it were thought desirable, incorporated in some more intimate manner.

4. All students desirous of taking the M.D. of the Universities should be obliged to pass *one annus medicus* in the University; the remaining four of the five years required for the University degree being passed at one of the affiliated London Colleges—i.e., the present London medical schools.

5. The *annus medicus* required by the University should consist of a definite number (say four) of courses of University lectures; but all four courses of lectures need not be taken out in the same year of study. The student should be allowed to choose the classes he would take out and when he would attend them. Thus a student entering at one of the affiliated London Colleges might take one, two, three, or four courses of University lectures in his first, second, third, fourth, or fifth year of study, or he might take one the first year and three the fourth year or two the second year and two the third year, and so on; the only proviso being that four complete courses of University lectures must be attended in the five years' course of study, and that the final year should, so far as possible, be devoted to practical (hospital) work.

6. During the first four years of study the student should be obliged to attach himself to one of the affiliated London Colleges, and therefore to limit his attendance to one hospital; but during the fifth or final year he should have the option of attending the hospital practice of any of the other affiliated Colleges, or, if he desired to do so, of attaching himself to individual clinical teachers. It would probably also be advisable to allow students to attach themselves during the fifth or final year to certain special hospitals (such as the Great Ormond-street Hospital for Sick Children, Hospital for the Paralysed and Epileptic, Brompton Hospital for Consumption, Moorfields Ophthalmic Hospital) or to such large workhouse hospitals or provincial infirmaries as were "recognised" for the purpose. It might perhaps also be advisable to insist that a portion of the final or fifth year (say three or six months) should be passed in apprenticeship to a private practitioner, or in attendance at a public dispensary, fever hospital, or lying-in hospital. By this arrangement the student would be able to acquire a knowledge of some of those practical subjects in which (it would appear from the recent debate in the General Medical Council) the newly qualified practitioner is often deficient.

7. *Fees.*—The student would pay the same fees to the affiliated College to which he attached himself (for his first four years of medical study) as he at present pays to the individual London medical schools. For the four courses of University lectures a composition fee of, say, £16 16*s.* or £21 should be required. This sum should be paid into a common university purse, and divided amongst the different professors in such proportions as the importance of their subjects, and the extent of time required of them, seemed to demand. The salaries of the professors should (as has been already stated) be ample—i.e., sufficiently large to attract the most distinguished men: and should be made up partly (1) by an endowment fund specially provided for the purpose; (2) by a share of the composition fees; and (3) by special fees paid to the individual professors for such extra courses of lectures as the students in the affiliated Colleges might wish to attend. It is obvious that many students might wish to take out a second course of lectures on some particular subject; or to attend more than

the four courses of University lectures required for the degree. A special fee, paid to the individual professor, whose course of lectures was selected as an extra, would tend to stimulate individual professorial effort, and would therefore be advantageous. It should, however, be distinctly understood that however many extra courses of University lectures a student chose to attend, he would still have to attach himself for four years to one of the affiliated Colleges, and to pay to that College the fees required for such four years' course of study. For the final or fifth year a fee of, say, £5 5s. or £10 10s. should be demanded for the course of hospital study, and this fee should be paid to the hospital and individual clinical teachers to which the student elected to attach himself.

8. *Examinations.*—The Examining Board for the University degree should consist of the University professors and of examiners selected from the teachers of the affiliated Colleges. The standard of examination and the subjects required should be similar to those of the Scotch Universities.

9. The teachers of the affiliated schools should be largely represented on the Senate of the University. But to this and many other similar points of detail I need not refer.

UNIVERSITY OF LONDON: MEETING OF CONVOCATION.

THE UNIVERSITY AND THE COLLEGES.

THE meeting of Convocation of the University of London was held on Tuesday, the 17th inst., the Chairman of Convocation, Dr. F. J. Wood, presiding. Sir P. Magnus, who should have moved the reception of the report of the Annual Committee, was unable to be present, but sent a letter, which was read from the chair, in which he urged Convocation to support the action taken by the Senate with regard to the scheme of King's College and University College, and expressed the hope that the question would be made the subject of a Royal Commission.

Dr. NAPIER moved the adoption of a resolution, bearing on this subject, recommended in the report of the Annual Committee—viz., "That Convocation expresses its approval of the Senate's action in objecting to the Joint Scheme of King's College and University College." He reviewed the previous proceedings of Convocation upon the reform of the University, and the action taken by the Senate upon these proceedings; and pointed out that in the schemes prepared by these bodies the representation of the teaching element and of these two Colleges upon the Faculties of the University was amply provided for. He objected that the scheme of the Colleges would not promote higher education, for the proposed new University would be a small one; it would be confined to the "London district," and its whole power would be concentrated in teachers. There would be no independent Senate. The scheme, which was based on the exclusion of the existing University would, if adopted, be likely to lead to the multiplication of small universities, which would tend to lower the standard of degrees, and to the examination of students by their teachers, who would expect their questions answered in their own way, and would thus perpetuate the defects of Oxford and Cambridge without their compensating advantages.

Dr. Ross seconded the motion.

Professor CARRY FOSTER opposed the resolution, pointing out that London had no university in the proper sense of the word—such a Teaching University, for instance, as Berlin possesses. Degree-granting is not an essential part of a university; and as to size, let them compare London with Berlin. It was not correct to say that King's College and University College were simply bodies of teachers; they were corporations which appoint teachers, and it did not follow that the teaching element alone would be represented on the councils of the proposed university. The scheme of the Colleges was framed in the interest of higher education, and was intended to meet a great defect.

Dr. R. D. ROBERTS said that a wide principle was involved—viz., how best to promote higher education. The question was, whether the scheme of the Colleges will increase the number of students. He doubted whether it were possible to do so. The University of London had done much to widen the field of education; but there was room for further extension—for a Teaching University which should work on the lines followed during the past fifteen years of the university extension principle, and provide educational advantages and rewards for those who, engaged in business and other occupations, were able to devote only a limited time to study. He therefore moved as an amendment the addition to the resolution of the words, "and is of opinion that no new university should be established in London which does not provide not only for the needs of day students, but also for that much larger class of adults engaged in various occupations who desire a broad, higher education, but who have to limit their studies to evening work."

Mr. COOPER seconded the amendment in an energetic speech, in which he claimed that this work should be done by the University of London, which ought to have for its motto "urbi et orbi."

Mr. MOORE objected that the amendment was deceptive. The great value of the University of London is that it does open its doors to "private study." As to the main question, he thought it far better that the Colleges should be welded to the University than that they should form an independent body.

Dr. CURNOW regretted the action taken by the Senate, because the University of London has one aim, a universal one, and the Teaching University another—viz., to form a local body to meet local needs. The two objects could not be combined, nor was there any fear that any harm could come to the University by the proposed scheme. There was a precedent in the Victoria University, which was, by the way, regarded coldly only by the official members of the University of London. If there was to be a local university, it could not be founded on a general basis, and it would have been far better had the Senate left it alone. He pointed out that the scheme was not confined to the two Colleges in question; in the Medical Faculty the medical schools would form constituent parts; and the scheme was so framed as to provide for a future widening of basis so as to include other educational bodies in London. He was glad to hear that the University of London was engaged upon measures of reform, but contended that no such measures could alter the character of the University and adapt it to the local needs of London. With respect to multiplying universities, he remarked that surely London, with 4,000,000 inhabitants, might well demand one Teaching University, when Scotland, with a smaller population, has four Universities. He hoped the day would come when a university would arise out of Mason's College, Birmingham, and supply for the midland counties what the Victoria University is doing for the northern; and such foundations would in no way injure the University of London. As regards external examiners, Dr. Curnow pointed out that in the Medical Faculty almost all the present examiners in the University were also teachers in one or other of the London schools, and must—at least in the practical and *vivâ voce* examinations—be called on to examine their own students. He cited the Victoria University as evidence that the degrees would not be lowered in a local university; and criticised the reported line taken by the Senate with respect to the scheme of the Colleges of Physicians and Surgeons, which the Senate did not oppose, although that was a scheme based purely on a professional ground, whereas the Senate did oppose a movement which was directed in the interest of higher education. When the College of Music was founded the Senate had other views, and did protest against a merely professional degree.

The CHAIRMAN here referred to the Minutes of the last meeting of the Senate, which contained a resolution to the effect that whilst the Senate did not offer any direct opposition to the scheme of the Royal Colleges of Physicians and Surgeons, it did so on the understanding that the degrees proposed to be conferred should not in any way be confounded with those of the University; that the preliminary education required of candidates be not inferior to that of like universities; and that no proposal to confer degrees on those already holding professional qualifications be entertained. He admitted there was great difference of opinion in the Senate on the subject.

Mr. R. H. HUTTON said the amendment was not germane to the question. The point at issue did not so much concern the question of examiners as that of the constitution of the Senate. He feared the danger of a Teaching University would lie not in having degrees, but in giving teachers

the power to frame a curriculum less fitted to the ordinary student than to men wishing to prosecute "original research." The question was which of the two schemes would really promote higher education, and he must think that Justice Fry's scheme or that of the Senate was better than that of the Colleges for this purpose. But where was the difficulty of forming a teaching body on the pattern of Berlin? Were not the Colleges already teaching bodies? The difficulty lay in the degree; and there, on the one hand, they had to deal with men who wished for a degree to gain a professional livelihood, and, on the other, with those who wished to promote original research. It seemed to him that the scheme of the University would greatly increase the power of the teachers—without being overpowered by them—much better than the Albert University.

Dr. QUAIN said that no good objection had been made to the duties and functions of the London University, and now they were asked to create an Albert University for the sake of London students. But do those students object to come to the present University? The teachers could form a Teaching University, but not so as to interfere with the office so well filled by the University of London. He trusted the statement of the Senate would be supported; it erred only in not asserting the good the University had done.

Professor SYLVANUS THOMPSON ridiculed the "geographical" argument, and pointed out that there were large educational centres practically as near London as many places "within the fifteen-mile radius." He contended there was no essential difference between the two schemes, but protested that a far more pressing question was that the University should set itself free from its connexion with the State.

Mr. ROUSE repeated the argument that multiplying universities meant lowering the standard of degrees.

Dr. ROBERTS desired to withdraw his amendment, but, the seconder not agreeing, it was put and negatived.

Professor SCRUTTON thereupon proposed an amendment, which was ruled out of order, as it negatived the original proposal. He therefore opposed the resolution, on the ground that the University had departed from its original safeguard for complete training, in doing away (except in medicine) with constituent Colleges. He contended that King's College and University College were simply reverting to this principle, which ensured that candidates for degrees should have passed through a recognised curriculum, and that cramming would thereby be discouraged. The teachers of these Colleges were unanimous, and he predicted that the scheme they promoted would finally be carried, for it afforded the only solution to the question of founding a proper university in London.

Dr. NAPIER, in replying, pointed out that the schemes of the Senate and of Convocation went far to meet the objections which had been raised, and would carry out to a great extent the objects arrived at by the Teaching University Association.

On a division, there was a large majority in favour of the resolution.

The CHAIRMAN called attention to the desirability of not losing sight of proposal No. 6 on the agenda, in view of the meeting of Convocation to be held on the 6th of March next, when a list of three persons is to be nominated, in order that it may be submitted to Her Majesty for the selection therefrom of a Fellow of the University.

Precedence was then given to No. 6, and a resolution standing in the name of Dr. Grece was put, on the motion of Mr. H. A. Nesbitt, M.A., seconded by Dr. A. Thompson. The proposition was adopted after slight opposition, and a series of propositions moved by Mr. J. G. Fitch, M.A., and seconded by Professor Sylvanus Thompson, were carried, the object of which was to economise the expense of circulars and notices to the 2400 members who have hitherto received notices of all proceedings of Convocation.

The meeting then adjourned.

POLLUTION OF THE LEITH.—The Corporations of Edinburgh and Leith have issued summonses against over 200 persons with manufactories or other businesses or residential premises along the banks of the water of Leith, seeking to interdict the discharge of impure matter into the stream. The polluting materials, which, it is alleged, are discharged into the river, consist of carbonate of lime and caustic soda, waste dye liquor, lime and animal organic matter and sewage.

PROFESSOR VIRCHOW ON CANCER.

THE first article in the current number of his well-known *Archiv* (the first part of the 111th volume) is by Professor Virchow, and deals with the subject of the diagnosis and prognosis of carcinoma. It has doubtless been suggested by the attention which has been during the past few months given to this subject and the opinions published thereon. Indeed, in his opening sentences Professor Virchow says that it might seem unnecessary to spend any words on the question were it not for a revival of an old controversy as to the greater reliability of anatomical or of clinical facts in the diagnosis of cancer. At any rate, there is no one better entitled to speak on the subject than he is, and it may be interesting to present in abstract the chief points raised in this article.

When he first entered on practice Virchow found that the dominant idea was that clinical experience should form the basis for such diagnosis; and Johannes Müller himself[1] had urged this as a reason for including "carcinoma fasciculatum" among the cancers with which it had no other resemblance. For the same reason—similarity in physiological characters—he also subsequently gave the name "osteoid cancer" to ossifying growths, and defined as "cancerous" tumours which, retaining natural tissue structure, are either at first constitutional or become so during their development or after recurrence, and lead ultimately to the death of the patient. Virchow himself, in the first volume of the *Archiv* (1847), took a different standpoint for the definition of cancer—viz., the anatomical one of its being composed of an alveolar framework of connective tissue enclosing cells. This was the first indication of a separation in kind of various forms of malignant growth, and fibrous and osteoid cancers were shown to be essentially sarcomas. He learnt by experience that malignancy was not the special attribute of any particular form of morbid growth. Many cancers remain localised for years, others become "constitutional" after enduring a long time as local growths, whilst others from the very outset tend rapidly to become generalised. Even some apparently benign growths—as enchondroma and myxoma—may occasionally become metastatic, a further ground for abandoning the course taken by growths as a diagnostic principle. In 1849 Professor Virchow urged the importance of basing nomenclature upon structure, and in his classical work, "Die krankhafte Geschwülste" (1863), spoke of a scale of malignancy upon which the various types of heterologous growths might be drawn. In this way diagnosis and prognosis may approximate—e.g., epidermoid cancer (cancroid) would be lowest in the scale of malignancy, and carcinoma melanodes the highest. The diagnosis will rest on the determination of the type of growth, the ascertainment of its histological characters. It will not suffice to determine the generic position of the tumour, but its species must be accurately ascertained; just as in the case of a poisonous plant it is not enough to conclude that it belongs to the Solanums, nor even that it is a solanum; the actual species of solanum must be identified. Of course a "scale of malignancy" could only be framed from very extensive statistics based on accurate observation of the biological characters of growths. No doubt this is best attained by clinical studies in association with histological knowledge. In some cases the anatomical structure may be inferred with much probability from the gross or external characters, but the practitioner should never forget that it is incumbent on him to make an anatomical diagnosis, and in many cases this must involve histological examination. If he is sufficiently versed in the methods of such examination and has the time to devote to it, no one is better qualified for this task than the practitioner himself; otherwise he should call in the aid of a reliable and careful morbid anatomist. The pathologist, in determining the life history of tumours, does not necessarily or solely rely upon clinical facts. The post-mortem examination affords him an independent, and in some respects a sounder, field of knowledge. The mode of growth of a tumour, its involvement of neighbouring parts, its dissemination, are facts to be gained by ana-

[1] Ueber den feinere Bau und die Form der krankhaften Geschwülste. Berlin, 1838.

tomical research. It would be a retrograde step now to consider this as opposed to clinical inquiry; indeed, all the vast and rapid progress made by medicine in the past fifty years has been due to the co-operation of both these sources of knowledge. Professor Virchow then asks what histology has done to add to our knowledge of carcinoma. That it had an alveolar structure was known before the fact was microscopically determined; but that the "juice" contained in the alveoli was mainly composed of cells was only to be known through the microscope. His own share in this work consisted in demonstrating the alveolar type as common to all carcinomas, and not merely to the simple and gelatinous forms (which latter had alone been termed "alveolar" by Otto); and then to prove that the cancer-cells were of the type of epithelial or epidermal cells, especially those of so-called transitional epithelium.[2] Alibert is incorrect in saying in his recent work[3] that Johannes Müller was the first to discover the epithelial character of cells in a case of cancer of the cheek. Müller's statement[4] is: "I once saw epithelioid, flat, squamous-looking cells, with nuclei forming a thick layer on the surface of a cancer of the cheek"—obviously an epidermal layer. There is, then, a twofold test of carcinoma, the closed alveoli and the epithelioid cells they contain. It is plain that this structure can only be found in the depth of the tissues, and not on the surface, although in its growth it may come to project beyond the surface. The diagnosis therefore turns upon the point whether the growth is actually seated below the surface; whether it is, in fact, heterologous in the sense in which Virchow uses that term.[5] Cancer begins with the development of epithelium in abnormal situations, and the proof of such abnormality (heterotopia) is the first step in diagnosis; but it does not end there, for other tumours—as pearl tumours and dermoids—produce heterologous epidermal structures, and are certainly not cancers. The growth must have the appearance of a gland, but with closed outlet.

(To be continued.)

THE DEMERARA CASE.

WE have received, together with voluminous newspaper reports, a Blue-book containing the minutes of an inquisition on the death of an Indian immigrant, Nepaul, published at Georgetown, Demerara, in 1887. From a careful perusal of the evidence we learn that the deceased man, an East Indian, about forty years of age, was admitted into the Ogle Hospital, under Mr. Delamere, L.K.Q.C.P.I., on May 16th last, suffering from pain in the region of the left knee. The affection was diagnosed as "rheumatism," and remedies appropriate to that malady were prescribed and employed. Nepaul remained in the Ogle Hospital until June 4th, when he was discharged at his own wish and sent to the Public Hospital, Georgetown. The journey, which occupied two hours, was made in a cart, and whilst travelling Nepaul sat with his knees bent up to his chin—coolie fashion. After his arrival at Georgetown he was seen by Dr. Ozanne, who examined the affected leg under chloroform. After manipulation, Dr. Ozanne remarked, in the presence of several bystanders in the operating theatre, "The man's leg is broken." It further appears that a trocar was passed into the swelling and some sanious fluid withdrawn. After the patient was put to bed the thigh became much more swollen, so Acting Surgeon-General Williams was sent for. A consultation was held, and it was decided to amputate the limb. This was accordingly done. Unfortunately the man succumbed from shock some six hours later. Thus far the facts as stated above may be taken as undisputed. The main question for decision is this: Was the man's thigh broken before his admission to the Georgetown Hospital, and, if so, when and where did the accident occur; or was the bone broken by Dr. Ozanne during the manipulation referred to? The evidence, to our mind, seems overwhelmingly convincing that the latter hypothesis is the correct one. In the first place, there was no history of injury, and from the sworn testimony of his widow we gather that "he worked even when he was complaining a little of his leg"; and, further, that during the fortnight he was ill at home before his removal to the Ogle Hospital "he used to walk about." Then, again, he would not be likely to sit on a cart coolie fashion with a fracture of the femur. According to the statement of more than one person, "he walked down the (Ogle) hospital steps" to the cart which was to convey him to Georgetown, although it is only fair to say that this statement was traversed by one witness. Mr. Prince, dispenser and sick nurse at the Ogle Hospital, elicited from deceased that he attributed his illness to catching cold whilst working at the sea defences. Again, nothing occurred prior to Nepaul's admission to Georgetown Hospital to lead anyone to suspect that his thigh was broken, and it is scarcely likely that he could have had a fracture of the shaft of the femur without there having been pretty clear indication of such condition. In the official report of the inquest we find the following deposition made by W. L. Appin, a gentleman qualifying for a dispenser at the Georgetown Hospital: "During the time that Dr. Ozanne was turning the leg round I heard a crack, which sounded as in the thigh, and then the doctor said he had a fracture." Of course it is possible that this witness may have mistaken the crepitus of a fracture for the sound caused by the breaking; but, to say the least, it is highly improbable. Let it be clearly understood that we do not attribute blame to Dr. Ozanne either for the fact or the manner of his examination; we only say that the balance of evidence is in favour of the theory which supposes the fracture to have occurred on the operating table at Georgetown Hospital. It should be noted that at the post-mortem examination a large abscess cavity was discovered, extending for a considerable distance up the thigh—so high, in short, that although the amputation was performed at the junction of the upper and middle thirds the abscess wall was involved in the flaps. A question suggests itself here, the answer to which throws fresh light on the cause and time of the fracture: Which was the more likely event—suppuration about a simple fracture, or fracture through a bone affected with periosteal abscess of seemingly several weeks' duration? Surely the latter hypothesis is the one most consistent with our knowledge of the pathology of injuries and diseases of bone.

Unfortunately, the medical men disagreed as to the interpretation to be put upon the appearances of the fracture after dissection, for whilst Drs. Williams, Ozanne, and Rowland were of opinion that the bone was healthy, and that it was a case of ununited fracture of about a month's standing, Drs. Kennedy, Young, and Veendam swore the bone was rotten—osteomyelitic, except at one very narrow portion, "where there was a very recent fracture." The discrepancy is undoubtedly a grave one, and much to be regretted, for there can be no justification for mistaking the callus of a fracture when *in situ* for a periosteal node. It is to be hoped the fragments have been preserved for reference to some skilled authority in this country.

The most serious feature of the case remains to be related. If we are to take the Blue-book report and the newspaper accounts as truly representing the facts, we say, without hesitation, that a grievous injustice has been done to Mr. Delamere. A short time after the death of Nepaul the acting surgeon-general sent a letter to Mr. Delamere, requesting him to hand over the charge of the district to a supernumerary officer, and to report himself at headquarters. Mr. Delamere states that Dr. Williams accused him of "gross negligence" or "carelessness" in treating a case of fracture for rheumatism. The censure would have been merited had the mistake been made, which is the point in dispute; but even then it was scarcely wise on Dr. Williams's part to proceed with what we cannot help calling reckless impetuosity to condemn a fellow-practitioner and an inferior officer without the fullest inquiry. But if Mr. Delamere's sworn testimony, as stated in the Blue-book, is to be believed—and we do not find it challenged—we have to accept as true that when he said to Dr. Williams, "What am I to do; it is a serious charge?" the latter replied, "Well, the best thing you can do—you know you have been guilty of this negligence—is to write me a letter or a report on the case, and acknowledge you have been guilty of this carelessness, and say that, as you had heard no history of the case, and had not heard of any accident that had happened to Nepaul, you had overlooked the fracture." Mr. Delamere goes on to say that Dr. Williams showed him a letter alleged to have been received from Mr. Villiers, of the Executive Council, which contained these passages: "With reference to your charge against Mr. Delamere for treating a broken

[2] Archiv, 1847, I., 105.
[3] Das Carcinoma in historischer und experimentell-pathologischer Beziehung, s. 45. Jena, 1887.
[4] Loc. cit., s. 25.
[5] Die Cellular Pathologie, ss. 57, 393. Berlin, 1858.

thigh-bone for a case of rheumatism," and "I wish you to frame a charge against Mr. Delamere for malpractice and entering false and misleading statements in the hospital-book at Ogle." The authenticity of this letter can easily be decided by the authorities. If the narrative given by Mr. Delamere is true, we cannot conceive a greater error of judgment on the part of Dr. Williams. Some colour seems to be lent to this complexion of the case by the fact that Mr. Delamere was removed from his office and has been reinstated. We trust a full Government inquiry will be made into the matter, if this has not been already done. Should Mr. Delamere be proved to have been blameless, he ought to receive substantial compensation for his losses and sufferings. Dr. Williams, in his evidence before the coroner, said that he had not accused Mr. Delamere of malpraxis. At the inquest the jury returned a verdict of "Death from natural causes."

THE FRENCH ACADEMY PRIZES.

ANNOUNCEMENT has just been made of the adjudication of the prizes which the French Academy from time to time offers for competition among scientific writers. Seeing that the prizes have a large money value and confer great distinction upon the winners, it is a little surprising to learn that the judges have been unable to award any one of them for lack of competitors. Yet this has been literally the case with a medal of the value of £120 which was offered under the title of the Bordin Prize for the best thesis on the "Comparative Study of the Fresh-water Animals of Africa, of Equatorial Asia, Australia, and the Oceanic Islands." Perhaps the demand made upon extensive travel was too exacting. At least, the Commissioners of the Academy appear to think so, for they have withdrawn this subject altogether, and have substituted for a further competition "A Comparative Study of the Auditory Apparatus of Warm-blooded Vertebrate Animals, Mammals, and Birds." The theses must be lodged by June 1st, 1889, with the secretary of the Institute, and may be either written or printed. We understand that they need not be written in the French tongue, and that foreigners are not excluded from the competition; but if any of our readers should be disposed to compete upon these terms, it would be well for them to obtain information upon these points, as upon others which would in that case suggest themselves, from headquarters. Our authority for the present statement is the *Comptes Rendus* of the Académie des Sciences, in its number for December 26th, and we do not see that it states explicitly the conditions of the competition. We should, however, be glad to see some of our countrymen claiming the laurels which our neighbours very generously offer to scientific merit all the world over, and take a pleasure therefore in repeating the announcement of several other prizes in the department of what may be called medicine and the collateral sciences, from which we select the following:—

Grand Prix des Sciences Physiques: Complete study of the embryology and evolution of an animal, to be chosen by the candidate. Prix Bordin (mentioned above). Prix Thore: To be awarded to the author of the best memoir on the cellular cryptogams of Europe—sea- or river-weeds, mosses, lichens, or mushrooms—or upon the habits and anatomy of some species of European insects. Prix Savigny: This is given to assist young zoologists to travel, but on what terms does not clearly appear. Prix de Gama Machado: For the best memoir upon the coloured parts of the integumentary system of animals, or upon the reproductive matter of the animal system. Prix Montyon: To be awarded to the one or more authors of works or discoveries which shall be adjudged most useful to the art of healing, and to those who have discovered the means of rendering an art or an industrial operation less insalubrious. Prix Bréant: To be awarded to any person who has advanced science upon the question of cholera or any other epidemic disease, or who has indicated a method of radical cure for eruptions or their causes. Prix Godard: For the best memoir upon the anatomy, physiology, and pathology of the genito-urinary organs. Prix Serres: General embryology as applied to physiology and medicine. Prix Chaussier: For the best book or memoir which shall have appeared within a period of four years, and shall have produced an advance in legal or practical medicine. Prix Dusgate: For the best work in the diagnostic symptoms of death and the means of preventing premature burial. Prix Lallemand: To be given by way of recompense or encouragement for work relating to the nervous system in the widest sense of the words. Prix Poural: To be awarded for experimental researches in muscular contraction.

MEDICAL TRIAL.

COURT OF APPEAL.

(Before the MASTER of the ROLLS and Lords Justices FRY and LOPES.)

MILLICAN *v.* SULIVAN AND OTHERS.

THIS was an action brought by a surgeon of the Queen's Jubilee Hospital against the committee of that Institution for wrongfully dismissing him from his position, and to obtain a perpetual injunction to restrain them from interfering with the plaintiff in the discharge of his duties as such surgeon. The plaintiff, in addition to the position of surgeon of this hospital, was also connected with the Margaret-street Hospital, in which patients were allowed to be treated on homœopathic principles, and the fact of his being an officer of the latter institution had given offence to the defendants, who called upon him to resign his position at one or the other of the hospitals. On the plaintiff refusing to adopt that course the defendants dismissed him and appointed a successor. At the trial before Mr. Justice Manisty the jury were discharged by consent, and the learned judge granted the perpetual injunction asked for, with costs against the defendants.

Sir H. James, Q.C., and Mr. E. Pollock now appeared for the defendants on appeal from the decision of the learned judge. The plaintiff appeared in person.

Sir H. James, on behalf of the defendants, cited various authorities for the purpose of showing that a Court of Equity would not interfere by granting an injunction in a case where, even though there might be a binding contract, relationship between the parties to such contract was of a personal nature. It could not be contended in the present case that the plaintiff, in his position as surgeon, had any rights of property in the institution. On the point of damages, it was not suggested that the plaintiff had sustained any pecuniary loss whatever by being dismissed from his position, and therefore the defendants were entitled to judgment on that part of the claim. The manner in which the breach of contract had been made did not, except in cases of breach of promise of marriage, entitle the plaintiff to damages.

The plaintiff, in person, submitted that, as a subscriber of a guinea a year to the institution, he had, independently of his position as surgeon, an actual interest in the property of the hospital, from the use of which he had been debarred by the action of the defendants.

The Master of the Rolls, in delivering judgment, said that their lordships were not called upon to give any opinion as to the propriety or the fairness or good sense of what had been done by either of the parties in this matter, and that they had nothing to do except to deal with their respective legal rights or legal wrongs. The first question was, what were the rights of the plaintiff. The plaintiff claimed to have the same rights in regard to this hospital as a member of a club had with regard to his club. Members of clubs had rights of property in their clubs, and it was upon that ground, and that ground alone, that the courts had interfered on their behalf. No doubt the plaintiff, as a subscriber to the hospital, might have an interest in the property of the institution, but the claim he sought to enforce here was in reference to his rights, not as a subscriber to the institution, but as a surgeon, and it was impossible to contend that as surgeon he had any legal or equitable interest in the property of the institution. As surgeon he had, no doubt, a licence to use certain rooms and certain furniture in the hospital, but that licence might be revocable at any moment, and there was no ground for contending that he had sustained any pecuniary loss by the revocation of that licence. The relation between the medical officer and the committee of the hospital, whether it was a contractual relation or not, and whether binding or

not, was a strictly personal relation, and the Courts of Equity had always distinctly refused to afford relief in the form of an injunction where the relations between the parties were strictly personal. The perpetual injunction which Mr. Justice Manisty had granted in this case could not be right, as the utmost that the plaintiff could have claimed was that he should be permitted to fill the office of surgeon for a year, for which he had been appointed. But, in his opinion, no injunction ought to have been granted at all. There was another rule by which the Court of Equity did not give its own peculiar remedy when there was a perfect remedy at common law, as was the case here. As the plaintiff had not sustained any pecuniary loss, if he were entitled to damages they would be merely nominal damages, and would not affect the result of this case. In the circumstances, whilst it would be unfair to make the defendants pay the costs of the trial below, he thought the plaintiff ought not to be called upon to pay their costs in the Court below. The defendants, however, having succeeded in their appeal, were entitled to have the judgment of the Court below reversed, with costs of the appeal.—Lords Justices Fry and Lopes concurred.

Judgment reversed, with costs.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bradford Urban District.—Dr. Hime's report on this borough during 1886 comes late, but it is exceptionally complete. The general death-rate was 19·08 per 1000; and the deaths under five years of age per 100 deaths at all ages amounted to a rate of 41·5. On a former occasion Dr. Hime pointed out that, whereas there had been a diminution in child mortality from most causes during school age, there had been an increase as regards that class of local diseases including affections of the brain and nervous system. He now reverts to the subject, and shows that the death-rate from nervous diseases among children under five years, which had been 109·0 per 10,000 living during the period 1880-84, and sank to 97·4 in 1885, rose in 1886 to 124·3. The death-rate from the same diseases at the ages of five to fifteen years has shown a constant increase, and he concludes that there is evidence of an excessive mortality due to a system of schooling unsuited to certain individuals. The nomenclature still attaching to some of these diseases is vague and very apt to change, and this may have to be considered in estimating the value attaching to these statistics. The system of compulsory notification of infectious diseases is stated to have been carried out with uniform success and satisfaction, and Dr. Hime suggests that it should be made to include additional diseases whenever these assume a dangerous and widespread character. We doubt the utility of this; for the system of notification has its main value in enabling authorities to deal with first attacks, and not with existing widespread mischief. In all, 1326 cases of different infective diseases were reported, and a number of interesting conclusions are based upon this number. But it is not stated to what extent the system can be regarded as complete, whereas on this completeness or not the full meaning of many of the statistics quoted must depend. Thus, it is stated that of the scarlet-fever cases taken to hospital in the five years 5·54 per cent. died; whereas of those treated at home 11·58 per cent. died. In view of the large number of extremely mild cases that usually receive home treatment these figures alone raise some doubt as to the completeness of certification in cases where the disease is so trivial as not to call for medical treatment. During the year no less than 107 deaths were uncertified, and some of these were cases that seem to have been of a sort that should have specially called for investigation. In a borough like Bradford there can be no real difficulty in securing medical assistance, whether from the parish or otherwise; and we entirely endorse all that Dr. Hime has to say on this subject. Public attention needs rousing to a sense of the misery to many helpless women and children which is involved in this failure to secure medical attendance, to say nothing of the secrets that lie hidden beneath a system of burial which can be carried out without even so much as a record of the cause of death. Dr. Hime is evidently fully convinced of the value of the Pasteur system in cases of alleged bite by rabid dogs, and he gives an interesting account of eight persons who were sent from Bradford to Paris for the purposes of preventive inoculation, the record announcing that they all remain well. We do not like Dr. Hime's assent to the use of rain pipes as sewer ventilators, provided they are so placed as not to run risk of conveying foul air into the houses. Probably he would really limit their use to house drains; but even then there is risk, for, as he himself says, rain pipes are "scarcely ever made air-tight"; besides this, drains and sewers need most easy means of escape for their contained air when they are filling fast, and this is precisely during heavy rainfall, when the pipes are in use for a down-current of water, which must materially hinder the needed up-current of air. We should like to see all rain pipes disconnected from the house drain, and opening over a properly trapped gully. An admirable system is in force in Bradford for giving poor children a summer holiday of sufficient duration to do them real good. The system was started by the Hon. Mrs. Howard, and in 1886 no less than 294 children were billeted in cottages in the country. The system is one that merits all the support which can be given to it, and we hope to see it extended even further. Dr. Hime's report covers over 130 pages, including tables. Any report extending to even half this length would usefully be provided with an index.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5875 births and 4194 deaths were registered during the week ending January 14th. The annual rate of mortality in these towns, which had been 24·8 and 23·8 per 1000 in the preceding two weeks, further declined last week to 23·3. During the thirteen weeks of last quarter the death-rate in these towns averaged 21·1 per 1000, and was 1·1 below the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 14·2 in Sunderland, 15·3 in Leicester, 17·7 in Birkenhead, and 18·3 in Hull. The rates in the other towns ranged upwards to 27·6 in Blackburn, 28·2 in Plymouth, 28·7 in Wolverhampton, and 34·9 in Manchester. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 503 and 493 in the previous two weeks, further declined last week to 476; they included 208 from whooping-cough, 68 from scarlet fever, 60 from measles, 47 from "fever" (principally enteric), 33 from diphtheria, 33 from small-pox, and 27 from diarrhœa. No death from any of these zymotic diseases was recorded during the week in Halifax, whereas they caused the highest death-rates in Wolverhampton and in Sheffield. The greatest mortality from whooping-cough occurred in Manchester, Norwich, Leicester, Wolverhampton, and London; from scarlet fever in Bristol, Wolverhampton, Birkenhead, and Norwich; from measles in Nottingham, Derby, and Birmingham; and from "fever" in Preston. Of the 33 deaths from diphtheria in the twenty-eight towns 16 occurred in London, 4 in Liverpool, 3 in Newcastle-upon-Tyne, and 2 in Oldham. Small-pox caused 27 deaths in Sheffield, 4 in Leeds, 1 in London, and 1 in Bristol, but not one in any of the twenty-four other large provincial towns. The Metropolitan Asylum hospitals contained only 6 small-pox patients on Saturday last, a decline of 2 from the number at the beginning of the week. The number of scarlet fever patients in the Metropolitan Asylum hospitals and in the London Fever Hospital at the end of last week was 1808, against numbers declining steadily in the preceding five weeks from 2764 to 2098; the 160 cases admitted to those hospitals corresponded, however, with the number in the previous week. The deaths referred to diseases of the respiratory organs in London, which had been 357, 442, and 502 in the preceding three weeks, further rose last week to 579, and exceeded the corrected average by 44. The causes of 67, or 1·6 per cent., of the 4194 deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Newcastle-upon-Tyne, Nottingham, and in five other smaller towns; and the largest proportions of uncertified deaths were recorded in Salford, Hull, and Bradford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·4, 24·3, and 27·1 per 1000 in the preceding three weeks, declined again to 24·0 in the week ending Jan. 14th; this rate exceeded, however, by 0·7 the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 10·8 in Greenock and 16·0 in Perth, to 27·2 in Dundee and 31·2 in Paisley. The 607 deaths in the eight towns showed a decline of 78 from the number in the previous week, and included 26 which were referred to whooping-cough, 26 to measles, 10 to diarrhœa, 8 to "fever" (typhus, enteric, or simple), 8 to diphtheria, and not one either to small-pox or scarlet fever; in all, 78 deaths resulted from these principal zymotic diseases, against 74 and 91 in the preceding two weeks. These 78 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 0·5 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 24 and 30 in the preceding two weeks, declined again last week to 26, of which 11 occurred in Glasgow, 5 in Edinburgh, 4 in Aberdeen, and 3 in Paisley. The fatal cases of measles further rose from 14 and 23 in the previous two weeks to 26, and included 13 in Edinburgh, 6 in Leith, 4 in Dundee, and 3 in Glasgow. The 10 deaths attributed to diarrhœa showed a decline of 8 from the number in the previous week. The deaths referred to "fever" and diphtheria, however, showed an increase; the 8 deaths from "fever" included 4 in Paisley and 3 in Glasgow, while 6 of the 8 deaths from diphtheria were returned in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 184 and 163 in the preceding two weeks, further declined last week to 159, and were 22 below the number returned in the corresponding week of last year. The causes of 95, or nearly 16 per cent., of the deaths registered during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 36·2 and 38·6 per 1000 in the preceding two weeks, declined to 35·8 in the week ending January 14th. During the thirteen weeks of last quarter the death-rate in the city averaged 31·9 per 1000, the mean rate during the same period being but 20·0 in London and in Edinburgh. The 242 deaths in Dublin last week showed a decline of 19 from the number in the previous week; they included 10 which were referred to scarlet fever, 7 to whooping-cough, 5 to "fever" (typhus, enteric, or simple), 4 to measles, 4 to diarrhœa, 2 to diphtheria, and not one to small-pox. Thus the deaths referred to the principal zymotic diseases, which had been 16 and 33 in the preceding two weeks, were 32 last week, and were equal to an annual rate of 4·7 per 1000, the rate from the same diseases being 3·1 in London and 4·2 in Edinburgh. The fatal cases of scarlet fever, measles, and diphtheria exceeded the numbers in the previous week, while those of whooping-cough, "fever," and diarrhœa showed a decline. The deaths both of infants and of elderly persons were fewer than those in the previous week. Seven inquest cases and 6 deaths from violence were registered within the city; and 71, or nearly a third, of the deaths occurred in public institutions. The causes of 43, or more than 17 per cent., of the deaths in the city during the week were not registered.

THE SERVICES.

WAR OFFICE.—Army Medical Staff: Surgeon Robert Rossborough King Elmes resigns his commission (dated Jan. 18th, 1888).

ADMIRALTY.—Mr. R. D. Mason, C.B., Inspector-General of Hospitals and Fleets, has been awarded a good-service pension of £100 a year.

The following appointment has been made:—Mr. W. Shaw to be Surgeon and Agent at Portsmouth.

ARTILLERY VOLUNTEERS.—1st Volunteer (Sussex) Brigade, Cinque Ports Division, Royal Artillery: Acting Surgeon E. Treves resigns his appointment (dated Jan. 14th, 1888).

RIFLE VOLUNTEERS.—1st Volunteer Battalion, the Northumberland Fusiliers: Acting Surgeon D. Jackson resigns his appointment; also is permitted to retain his rank, and to continue to wear the uniform of the battalion on his retirement (dated Jan. 14th, 1888).—Acting Surgeon J. P. Elliot to be Surgeon (dated Jan. 14th, 1888).

THE VOLUNTEER MEDICAL STAFF CORPS.—The London Division: Thomas Horrocks Openshaw, M.B., to be Surgeon (dated Jan. 14th, 1888).

Correspondence.

"Audi alteram partem."

SHAMPOOING AS A PART OF THE SO-CALLED "WEIR-MITCHELL" TREATMENT.

To the Editors of THE LANCET.

SIRS,—A paper appeared in THE LANCET of Jan. 7th from Dr. Playfair on the "limitations" of the above treatment, and reference is made to shampooing (I prefer the old word) as one of the remedial agents employed. In speaking of this practice as "practically unknown in this country" before about six years ago, Dr. Playfair is imperfectly acquainted with the facts so far as Bath is concerned. I touched on the subject in my book on the "Bath Thermal Waters," published early in 1877; and in a paper contributed to the *Medical Times and Gazette* in March, 1878, I described fully the varieties of massage employed then on the Continent, and, as I had introduced it into my own practice, I used to recommend it as an essential part of the apparatus of our thermal baths, and, having an excellent *masseuse* to help me, the combined treatment was often most successful. The work grew, but for a while the workers were few and the craft in little repute. In 1884 the lady superintendent of our Nursing Institution added two skilled *masseuses* to her staff, and the popularity and utility of the new art became firmly established. Our new *Air* baths, combining dry douching with shampooing, are in great request; and we constantly prescribe local and general shampooing for the patients in our Mineral Water Hospital.

I am, Sirs, yours truly,

JOHN KENT SPENDER, M.D.,

Bath, Jan. 14th, 1888. Physician to the Royal Mineral Water Hospital.

THE TREATMENT OF CANCER.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Mr. Chesshire's able letter on the above subject in your last issue, and noted the facts he there refers to—viz., "that not only was the pain of cancer relieved by bleeding, but its progress was arrested to a large extent; also that, cancer being a blood disease, nothing is more likely to cure it than the removal of the blood which contains the germs of the disease, combined with the substitution of young and healthy blood by transfusion." These remarks having reached San Remo, cupping at the nape of the neck followed, and considerable relief to the throat was obtained, the local congestion being materially reduced. Regarding the disease in question from the present standpoint of pathology, when so much is credited to bacteria as the cause of various diseases, the suggestion appears to be most rational, and when I compare it with my own experience of the success obtained in an extreme case of cholera in August, 1849, from the abstraction of four pints of dark blood (after the fruitless use of many other means), and the speedy recovery from the effects of that large loss of blood, I am disposed to think that not only were the minute pulmonary capillaries relaxed and the blood allowed to flow through the lungs, as has been so ably described by my friend Dr. George Johnson, but that there was also, and at the same time, an elimination of some morbid irritating material contained in the blood—e.g., the cholera bacilli. This, I submit, supports the opinion put forward by Mr. Chesshire with respect to a possibly kindred disease to be found in cancer. My case was published in the *Medical Times and Gazette* subsequently, and can be authenticated.

You will, I am sure, allow me to remind you that I wrote out a few weeks since particulars of an obstetric case and forwarded it to you for publication, where there was an extensive swelling of the vagina accompanied by an arm presentation, which swelling was completely removed by bleeding to the extent of twenty ounces from the arm in fifteen

minutes, and the delivery completed in ten minutes afterwards, and that I then suggested bleeding as a suitable and powerful remedy in the Crown Prince of Germany's case, and am glad to learn that a good result has followed the adoption of similar views advocated by Mr. Cheshire.

Trusting that the further discussion of this important subject may be useful,

I remain, Sirs, yours faithfully,

Pontefract, Jan. 17th, 1888. GEO. P. ATKINSON, M.R.C.S. &c.

THE MARGARINE ACT.

To the Editors of THE LANCET.

SIRS,—I am glad to see that in your annotation on the above subject you have drawn attention to the serious defects existing in the third clause, which allow of the addition of "preservatives" and "colouring matters" to butter without limit as to quantities or other restriction. Perhaps you will permit me to state that I called special attention to this in my quarterly report to the Vestry of Kensington, dated Oct. 5th, 1887, as follows: "I believe that the passing of this Act would do much towards further preventing the sale of adulterated butter and of butter substitutes as butter, if adequate steps were taken to have samples seized and analysed, and if guilty parties were adequately punished. It is, I think, greatly to be regretted that the new Act allows of the addition to butter of 'other preservatives' besides salt, and of 'colouring matters,' without stating what these are to be, and what limits, if any, are to be allowed."—I am, Sirs, yours faithfully,

CHARLES E. CASSAL,
Public Analyst for Kensington and St. George's, Hanover-square.

Town Hall, Kensington, January 18th, 1888.

THE AUSTRIAN RIVIERA.

(From our Special Correspondent.)

Abbazia, Oct. 1887.

AUSTRIA, with its southern coasts on the Adriatic, with its lofty ranges of mountains to ward off the cold northern winds, is, like Italy and France, also anxious to possess a Riviera where invalids may find shelter and renewed health. Prompt to understand the advantages health resorts enjoying a high reputation would afford, the Southern Railway Company of Austria boldly undertook to create such a place. For this purpose a little village on the Istrian coast was selected which possessed not more than 150 inhabitants. It was a name rather than a place, and there is some advantage in a pretty name; but a great advantage lies in the selection of a spot where the population is not numerous enough to have contaminated the soil or to have given rise to any other serious sanitary defects. Five years ago Abbazia was a fishing village of even less importance than Cannes when first discovered by Lord Brougham. But its topography was precisely what could be desired for a winter station, and the rich vegetation showed at once the climatic advantages of the site. Forthwith the railway company built an hotel, which is called Hotel Quarnero. The Crown Prince of Austria and the Crown Princess Stephania visited the new station, and in a very short time it became a fashionable resort. Now there are two large hotels and an annexe.

Sheltered by Monte Maggiore, which rises to an altitude of 1396 metres, and a chain of other and smaller mountains, Abbazia is only exposed to the warm southern wind. As a rule, the sea itself is as smooth as a mirror, for there are two large islands which break the force of the sea winds; so that, altogether, the topography leaves but little to be desired. Being 2° of latitude north of Nice and the French Riviera, of course Abbazia does not possess the same luxurious tropical and semi-tropical vegetation. Nevertheless the plants are a remarkable indication of the mildness of the climate. Among the native plants, the laurel, especially the thyme laurel, assumes gigantic proportions, reaching beyond the second floor of the hotels. Here also camelias flower in the open air towards the end of January, and the blossoms are already visible. There are cedars of Lebanon, and the fruit of the arbustos is now in good eating condition. The *Yucca glauca pendula*, the *Dracæna indivisa*, the *Gynerian argenteum* from Central Chili, magnolias some twenty-five feet high, some few specimens of the mimosa, and other semi-tropical plants, are to be found in the gardens flourishing in the open air. It is impossible to contemplate the richness of the verdure, the healthy look of all these and many other trees and shrubs, without at once recognising that the site chosen for the new health station undoubtedly possesses considerable climatic advantages.

The question then arises as to whether the sanitary conditions of Abbazia are equally satisfactory. The village is so small that of course it could not be expected to possess any system of drainage. There was therefore some danger that the water taken from local and surface wells might be contaminated by neighbouring cesspits &c. With commendable energy and enterprise, the railway company established water works of its own. Along the whole coast there are innumerable springs that burst from the soil close to the sea shore, and some even a few yards out and under the sea water. The quantity of the supply from the springs, however, varies according to the weather, and is at times apt to become brackish. Under the direction of Herr Oswald Meese, engineer of the Southern Railway Company, a pumping station was established at a distance of three kilometres from the hotel. Here, by digging down some sixteen metres, water was obtained from a spring just one metre above the level of the sea. It is therefore, as a rule, free from salt, and also thoroughly pure. An engine of eight-horse power can lift sixteen cubic metres of water per hour, and this is delivered through iron pipes into a reservoir containing 700 cubic metres, situated at an altitude of fifty metres. The reservoir is divided into two, and each half being filled separately, the water has time to deposit the earth or grit it may contain. It is then allowed to run into a larger reservoir of 1000 cubic metres, whence it is drawn for consumption. At present, the consumption of water is only eighty cubic metres per day, consequently there is a sufficient reserve of water to obviate the necessity of pumping for a considerable time. This is occasionally imperative, for, in spite of walls built round the spring, it sometimes becomes brackish for a little while. The reservoirs are very carefully constructed, the walls on the sunny side being four feet thick, and on the roof there is nearly a three-feet depth of earth to keep the water cool. Further, the ventilators are very securely guarded with perforated metallic plates, so that it is impossible for anything to be thrown into the water. There are also electric signals and means of communication on all sides, that automatically indicate when the reservoirs are full, &c. Inasmuch as the whole of the trenches for the water pipes had to be dug out of the solid rock that composes the mountain side, the expense and trouble incurred were very considerable. In building the reservoirs, there were at times as many as 300 mine explosions in the course of a day, and all the material had to be carried up the steep hill-side on men's backs. The iron came from Bohemia; the sand, for the mortar, from the Pau. Thus the water supply for the hotels of Abbazia alone cost 120,000 florins. These are facts that are well worth noting, as showing what actually has been done, so as not merely to obtain, but really to merit the name of a healthy station.

In building the Hotel Quarnero, the company were actuated by the same spirit. Each room is provided with two separate air shafts. One delivers fresh air under the stove, where, in winter, it is warmed before it gains admission into the room. The other air shaft communicates with a large stove in the basement of the hotel, which is kept burning summer and winter, day and night. This stove, with its metallic chimney, which ascends to the roof in the centre of an air shaft, produces a powerful suction which draws off the vitiated air from all the rooms. Thus the bedrooms of the hotel are ventilated when both windows and doors are shut. This is a most important advantage for invalids, as the insufficient ventilation of hotels very often counteracts the beneficial effects of a change of climate. It is, however, regrettable to add that the innovation has not been appreciated by the public. The residents of the hotel have closed the ventilators, and consequently entirely destroyed the very careful measures taken on their behalf to give them a constant supply of pure air. The cost of this ventilating system was equal to an eighth of the cost of the entire building, and was so little understood that when the company built the second and more important establishment—the Hotel Stephanie—they left the ventilation of the bedrooms to the hazard of the

doors and windows. This is a falling back against which an energetic protest should be made. At Abbazia, the entire blame is attributed to the inappreciativeness of the public, but it is more than probable that there was not sufficient care taken to thoroughly inform each visitor of the important advantages placed at his disposal.

Having secured its own water supply, the company proceeded to build its own sewer, draining into the sea. The hotels have waterclosets. The waste pipes are trapped, but the closets are not trapped immediately under the pan, though there is reason to believe effective trapping exists lower down. Still, the fact that the trap is not immediately under the pan and valve is a mistake, nor does it seem as if the soil pipes were sufficiently ventilated. In spite, however, of these defects, it would be difficult to find any place where money has been so freely spent in the cause of hygiene.

The large and beautiful gardens and grounds that surround the hotels are most skilfully laid out, both so as to please the eye and to provide an endless variety of walks in the shade and shelter of a rich growth of laurel and other trees. On the hills behind measurements have been taken so as to regulate the walks of the invalids. Persons with weak heart-action are thus exercised and made to carefully measure their powers of exertion, and, without fatigue, to gradually increase them. Local practitioners regard Abbazia as suitable for maladies of the respiratory organs, such as bronchitis, laryngitis, catarrh, and sometimes asthma, as well as for some nervous disorders. The climate is at once stimulating and sedative. Insomnia is often relieved at Abbazia, and there are a large proportion of patients suffering from rickets, scrofula, anæmia, and fatty degeneration of the heart, who also derive benefit from the sea and the mountain air, the warmth and the equable climate, of this station.

According to the observations made at Abbazia, the mean temperature was, from May, 1885, to April, 1886, equal to 13·6 C. (56·4 F.) The mean maximum was 18·7 C., the mean minimum, 10·3 C. During these twelve months the wind is described as "still" for 225 days, the weather fine during 205 days, cloudy during 46 days, and rainy during 114 days. In the following year, from May, 1886 to April, 1887, the mean temperature was 12·5 C., the maximum 20· C., and the minimum 10·4 C. The wind was "still" 258 days, the weather fine 221 days, cloudy 50 days, and rainy 94 days. The coldest months recorded are December, 1885, and February, 1886, when the mean monthly temperature fell in both months to 5·1 C. In the following twelve months it did not fall below 5·6 C. (Feb. 1887). From 1883 to 1884 observations were, if anything, more favourable than those given above.

The hotels of the railway company can accommodate about 500 persons, and sometimes in the height of the season they are quite full. In the neighbouring cottages and villas perhaps 200 more persons might find lodgings; and this is the result of four years' endeavours. Evidently Abbazia is as yet only in its infancy, and is destined to develop on a very large scale. There is, however, no town of importance near at hand, and the little steamers that ply in the bay take an hour going to Fiume, which is the nearest port. From Vienna the railways make the run in about twelve hours, passing over the Semmering and a portion of the Eastern Alps. It is a most beautiful journey. Finally, Trieste can be reached from Abbazia in about five hours. The new winter resort is therefore fairly accessible both from Northern Italy, Austria, and Hungary, and will undoubtedly contribute greatly to enhance the reputation of the Austrian Riviera.

THE DEVONSHIRE HOSPITAL AND BUXTON BATH CHARITY.—The report of the Committee of Management for 1887 shows that during the year 2389 in-patients were received, or 60 fewer than in the previous year, or 100 fewer than in 1885. These decreases were attributed to the long-prevailing depression, thus diminishing the contributions to charitable institutions. Of the 2389 in-patients, no less than 2226 were discharged as much improved, only 69 as no better, 39 were discharged or left from various causes, 2 died, and 53 remained on the books at the end of the year. The report illustrates the value of the Buxton mineral water in the relief of most cases of rheumatic, gouty, or arthritic character. It is shown that, of the 2389 cases under treatment in the past year, only 295 were without some form or degree of rheumatic complication.

LIVERPOOL.

(From our own Correspondent.)

STRAY AND UNMUZZLED DOGS, AND HYDROPHOBIA.

DURING the past quarter, according to the report of Captain Moorson, the chief constable of the county, proceedings were taken against 1160 persons for permitting their dogs to be at large, while 1367 unmuzzled dogs had been seized. Seventy certified or suspected cases of mad dogs occurred in different parts of the county; many human beings were bitten, and nine died from hydrophobia.

SHORT SUPPLY OF WATER.

The inhabitants of this city have been experiencing the effects of the long drought during last summer, it having been found necessary to place the city on a half allowance of water. In consequence of this, for some time past the water has been turned off from 5 to 7 P.M. each day until 5 to 7 A.M. the following morning.

THE HOSPITAL SUNDAY COLLECTIONS.

The total amount of collections advised to the treasurer up to the present date reaches about £5920. On the whole the returns are favourable, and a decided increase is confidently expected.

THE MEDICAL INSTITUTION.

A proposal to rescind the law which excludes homœopaths was moved at the annual meeting, but defeated by an overwhelming majority.

Jan. 18th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

DEATH-RATE AND POPULATION OF NEWCASTLE-ON-TYNE.

THE Newcastle *Daily Chronicle* says that the returns to be forwarded to the Registrar-General are now completed for the past twelve months, and that they show a general average death-rate of 25·2, as against 22·2 in the previous year. With regard to the mortality returns, as based on the population of Newcastle, they have long been supposed to be fallacious, as under-estimated in the latter respect, and 20,000 was often mentioned as being the overplus. The Registrar-General considers, however, after an examination of ample data, that 2000 will sufficiently cover the admitted increase, so that this will raise the officially estimated population of Newcastle to 159,000, so that our sanitary authorities must now try other means of diminishing the increasing death-rate.

DANGER OF CHLORAL.

I regret to mention the death of Mr. Peter M'Laren of Bebside, a surgeon in extensive practice. It appears that Mr. M'Laren took a dose of chloral on Sunday night, the 9th, wishing to procure sleep in order to enable him to meet a very heavy day's work. This, unfortunately, proved too strong, and he was found early in the morning dead in a chair beside his bed, with one boot on. The evidence at the inquest showed quite clearly that it was an accident. Apparently he had taken the dose before going to bed, but it seems to have begun to act with fatal rapidity before he left his chair. Mr. M'Laren was much respected by all classes. He was only thirty years of age, and a bachelor. I believe THE LANCET has before now drawn attention to the dangerous practice of surgeons taking narcotics to procure sleep when over-fatigued. The object is, of course, to enable them to keep pace with their work, but the practice leads to the loss of many valuable lives.

EPIDEMICS IN THE NORTH.

A severe epidemic of measles has broken out at Thirsk, and the disease is said to be on the increase. Some fatal cases have occurred, and others are reported to be seriously ill. It is stated that the oldest inhabitant does not remember such a visitation, whole households in many cases being down with the disease. At Usworth Colliery, co. Durham, an outbreak of typhoid fever has taken place. Several fatal cases have occurred, the victims being mostly young men. The outbreak, it is said, is owing to the deficiency in the

water supply and sanitary defects in the houses. It is to be feared that too many of our colliery villages in Durham are in a similar condition.

DEATH OF MR. R. G. GAMMAGE, M.R.C.S., LATE OF SUNDERLAND.

Intelligence was received in the north last week of the rather sudden death of Mr. R. G. Gammage, surgeon, late of Sunderland. Mr. Gammage had been in failing health for some time past, and about a year ago he received a testimonial from his medical friends in Sunderland and Newcastle, and retired to Northampton, his native place. The immediate cause of his death was an injury he received lately in getting out of a tram-car. He was in his sixty-fifth year, and leaves a widow. Mr. Gammage's life was a remarkable instance of perseverance and industry under adverse circumstances. He began life in Northampton as an artisan, but his interest in political movements quickened his desire for knowledge, and from the platform he took to study medicine, and succeeded in becoming qualified. Dr. Heath of this city appreciated his sterling qualities, and aided him and employed him as assistant. His conduct in his adopted profession was most scrupulous, and the break down in health of "poor old Gammage," as he was kindly called by his Sunderland brethren, was much regretted by them and a large circle of friends in the profession. Mr. Gammage possessed considerable literary ability, and his history of one of the great political movements of the Victorian epoch is still considered a standard handbook.

Newcastle-on-Tyne, Jan. 17th.

DUBLIN.

(From our own Correspondent.)

THE COLLEGES OF SURGEONS AND PHYSICIANS' CONJOINT SCHEME.

THE Committee of Management have at last published a syllabus of the subjects required for the second and third professional examinations of the scheme between the two Colleges. That for the second professional examination is as follows:—Anatomy: Bones, Joints, Muscles, Fasciæ, Topographical Anatomy of the Chest and Abdomen. Histology (including Practical Histology). Physiology: Circulation, Respiration, Digestion. Hospital Practice: Methods of Physical Diagnosis—Stethoscope, Percussion, Palpation, Thermometer, Pulse, Respiration, Tongue, Application of Urinary Tests; General Principles of the Diagnosis and Treatment of Fractures, of Dislocations, of Wounds, of Hæmorrhage, Bandaging, General Principles of Case-taking. Chemistry (including a Practical Examination in the Laboratory). Materia Medica: Candidates will be required to identify specimens of Materia Medica, and to show a practical knowledge of Pharmacology.

ROTUNDA LYING-IN HOSPITAL.

A patient of this institution, while suffering from puerperal fever, during the absence of her nurse, jumped out of a window, and died some days afterwards. As it was alleged that her death was due to the accident, an inquest was held by the city coroner last week. A post-mortem examination showed that no injuries, external or internal, had been received, and that death had been due to blood poisoning, the result of puerperal fever. The coroner said that there had been a certain amount of negligence on the part of the nurses, but it was more an error of judgment than a criminal act. The jury, however, took a different view of the matter, and brought in a verdict that the deceased had met her death by a fall from a window in the hospital, and they attributed her death to the carelessness of the nurses.

DR. CROSS.

The inquest on Dr. Cross's remains has been adjourned by the coroner—on what grounds it is difficult to conjecture—to Friday, the 20th, in order that Berry the executioner may be produced. It is very improbable that he will be forthcoming, all the necessary information having been given by Dr. Moriarty, the prison surgeon, and the gaol officials, and his presence before the coroner's jury is quite unnecessary. It was thought that permission for the interment could not be given pending the inquiry, but it is satisfactory to learn that on Friday last an order was received at the gaol for the immediate burial of the body, which was subsequently carried out.

SMALL-POX IN DUBLIN.

Since the 12th inst. there have been three fresh cases of small-pox in Dublin. Two of these are clearly traceable to the previous outbreak in Grant's-row, and the third, according to Sir Charles Cameron's opinion, has probably originated from the same source.

OUTBREAK OF TYPHUS FEVER AT INVERIN, CO. GALWAY.

Inverin is a village situated in the west of Ireland about five miles from Spiddal, and recently it has been visited by a serious outbreak of enteric fever. The rector of the parish, besides others, have succumbed, and it is said that over forty patients have already been sent to hospital since the occurrence of the epidemic.

POOR-LAW MEDICAL RELIEF IN IRELAND.

The Local Government Board have issued a statement in anticipation of the next annual report of the Board. From it I learn that the number of persons who received poor relief in-doors during the year ending September last was 383,667, or an increase of 22,695 on the previous year. On the other hand, there was a remarkable decrease in the out-door poor, the number being, for 1887, 147,230, and for 1886, 271,214, or a difference of 123,984. There was a total expenditure of £1,342,817 on relief of the poor, and a variety of smaller purposes comprehended along with it, showing a reduction of £17,780 as compared with the year preceding.

THE OUTBREAK OF MEASLES IN CAPE CLEAR.

Dr. J. Jennings, who has been sent to Cape Clear to treat the large number of islanders suffering from measles, has now returned to Skibbereen. He reports that the inhabitants are now in a comparatively healthy state, all the patients, some sixty in number, being convalescent. He has succeeded in confining the contagion to the eastern end of the island, but another outbreak at the western end may occur at any moment. There is only one critical case at present on the island—that of a child suffering from inflammation of the brain after the measles.

Dr. Daniel F. Brady, J.P., died at his residence, La Choza, near Dublin, on the 16th inst., at an advanced age.

Mr. D. Corbett, of Dublin, has been elected president of the Odontological Society of Great Britain for the ensuing year.

Dublin, Jan. 17th.

PARIS.

(From our own Correspondent.)

THE ACTION OF COCAINE.

M. LAFFONT read a note at a recent meeting of the Academy of Medicine on the physiological analysis of the action of cocaine. After having remarked that he followed the same experimental course adopted by M. Laborde, of the results of which he was ignorant, the author demonstrated that cocaine has a very exciting action on the constrictor filaments of the nervous system of the great sympathetic, and that it accelerates the circulation in all the smooth muscles. It, moreover, increases encephalo-medullary excitability and respects the function of the sensitive nerve trunks. On the other hand, it inhibits the terminations of the sensory nerves properly speaking, and of general sensibility. Supported by these facts, M. Laffont believes himself justified in saying that cocaine is a "sensitive curare," for, as regards the sensitive terminations of nerves, it acts, like curare does on the terminations of motor nerves, on the motor patches (*plaques matrices*). M. Laffont concludes that the excito-motor nervo-muscular action of cocaine on the great constrictor sympathetic nerve and on all the smooth muscles indicates its utilisation in the group of atonic gastro-intestinal maladies—flatulent dyspepsia, dilatation of the stomach, sluggishness of the intestines, &c. These results were supported by Professor Brown-Séquard, who read a note for the author on this subject at a previous meeting of the Academy of Sciences.

MILK IN BREAD.

The *Bulletin de la Société d'Agriculture de France* contains an article by M. Gennin of Bourgoin on the Utilisation

of Milk in the Manufacture of Bread. From time immemorial milk has been employed in the manufacture of bread and pastry, but the fatty matters contained in it prevent the leaven from producing its effects, by slackening the process of fermentation, and communicate to the paste a peculiar flavour. This difficulty, according to the author, may be overcome by separating the cream immediately after the milk is drawn. The results obtained are very encouraging; the bread produced is of remarkable whiteness and of excellent taste. In an economical point of view, this bread is not more expensive than that made in the ordinary way. Moreover, it is more nutritious, as it is shown by chemical analysis that it contains one-fourth more of nitrogenous matter and one-third more of phosphates than the bread made with water. It is therefore considered a valuable aliment, which would serve to combat rachitism in obtaining assimilable phosphoric acid in the alimentation of children and of adults.

PROFESSOR GERMAIN SÉE ON TEA.

In a very interesting clinical lecture by Professor Germain Sée at the Hôtel Dieu, on the Diet of Patients, the lecturer referred to tea as being the best of beverages. It is the best digestive drink, but it should be a light infusion; at least half a litre should be taken at a time, and hot. It may with advantage replace at the midday repast the wine that is now generally drunk. It does not ferment, and it contains only traces of tannin, whereas coffee contains much more, which coagulates the albumens. Certain authors have denounced "theism," which is described as being worse than morphinism, etherism, alcoholism. Eloy threatens tea-drinkers with intellectual feebleness, hallucinations, cephalalgia, &c. They become dyspeptic, "cardiacs" cachectic, anæmic, &c. It is curious to note that while tea-drinking is being condemned in England, it is becoming almost the universal beverage in this country, and particularly in the wine-growing districts. For instance, it has been estimated that during the last thirty years the consumption of tea in France has increased from 168,000 to 300,000 kilogrammes. Professor Sée recommends tea as not only being the best digestive, but as being the surest means of sustaining intellectual energy.

Paris, Jan. 17th.

ROYAL COLLEGE OF SURGEONS.

AT an extraordinary meeting of the Council of the College, held on Thursday, Jan. 19th, after the confirmation of the Minutes of the quarterly meeting, held on the 12th inst., the Council proceeded to the further consideration of the proposed reply to the Privy Council respecting the statement made on behalf of the Association of Fellows in reference to the Supplemental Charter, and read the revised reply as prepared by the President and Vice-Presidents. The reply was agreed to, and will be forwarded by the Secretary of the College to the Lord President of the Privy Council at an early date.

Obituary.

THOMAS KENNEDY WHEELER, M.D.

IT is with much regret that we announce the death of one of the most respected of the older medical practitioners of Belfast—Dr. Wheeler—which took place under exceptionally melancholy circumstances on Friday, Jan. 13th. For some time past it had been noticed that the deceased gentleman had been in very depressed spirits. His medical attendant, Dr. J. W. T. Smith, observed this mental depression, and the impression made on his mind was that Dr. Wheeler was afraid of falling into a state of health in which he would be unfit for professional work, as he was suffering from cardiac disease. On Wednesday, when last seen by Dr. Smith, he was very nervous. On Friday morning, about a quarter to nine o'clock, he entered a chemist's shop in Belfast and ordered a lotion containing prussic acid. While the assistant went to the front part of the shop to paper up the bottle it would appear that Dr. Wheeler, in a moment of temporary insanity, seized the stock bottle and walked into a bedroom off the shop, where the assistant found him lying on the bed. Dr. O'Neill was immediately summoned, and found the unfortunate gentleman insensible and breathing heavily. He tried artificial respiration and used the stomach-pump, but the deceased was dead in seven or eight minutes, having lived about twenty minutes after taking the dose. From the evidence it would appear that almost an ounce of the prussic acid must have been taken, and the matters removed from the stomach smelt strongly of the drug. At the inquest the jury returned a verdict "That the deceased died from an excessive dose of prussic acid taken while in a state of unsound mind." After the inquest a very careful necropsy was made by Dr. O'Neill and Professor Sinclair. The cerebral coverings showed signs of inflammatory change; they were opaque, thickened, and firmly adherent. There were minute recent hæmorrhages in the cortex, especially of the anterior lobes. In the left hemisphere there were softening and degeneration of the brain substance, the result of a more extensive extravasation of old standing. The heart was enlarged and fatty; there was disease of the mitral valve and adherent pericardium. The aorta and carotid arteries had patches of calcareous deposit. These pathological changes accounted for the disturbance of the deceased's mental faculties.

Dr. Wheeler was sixty-three years of age. The most intense sorrow prevailed in Belfast on Friday when it became known that he was dead, as both in public and private life he was most popular. Dr. Wheeler was one of the original graduates of the Queen's University, and was President of the Graduates' Association in Belfast. During all his life he resided in Belfast, where he had a very extensive middle-class practice. He was pre-eminently a general practitioner, profoundly trusted as a physician and beloved as a friend. His kindly courtesy and buoyant spirits made him a general favourite, which was apparent by the great gloom which prevailed in Belfast when his death was announced. He took a deep interest in all philanthropic and religious matters. The deceased will be greatly missed in Belfast. One of his sons, Dr. T. R. Wheeler, is surgeon to the Royal Hospital, and deep sympathy is felt for him and the rest of Dr. Wheeler's family in their very heavy trial.

Dr. Wheeler was buried on Monday last, and although the funeral was private there was an immense attendance of the public, including the leading medical men.

TITO VANZETTI.

THE Paduan school lost its ablest representative on the evening of the 6th inst. The octogenarian, Professor Tito Vanzetti, who held the chair of Clinical Surgery in ordinary in that University, had been ill for some days, and though his patriarchal years made his recovery almost hopeless, the progress of his malady was watched with an interest seldom aroused in patients much his juniors. The whole townsfolk, and in particular the students, awaited the successive bulletins of his attendants with feverish anxiety, and when it was announced that he was no more, the feeling was universal that the city and the school had been bereft of their brightest ornament.

His career as a student was full of promise, and he had barely graduated when he commenced that round of professional travel which, till late in life, was a passion with him, visiting all the public schools and cliniques of importance in Europe, and perfecting himself in every way for his work as a surgeon. His visits to foreign universities and hospitals were not those of the professional tourist merely. He stayed at nearly all of them long enough to master the distinctive character and method of each; and from some of them—Cracow, for instance—he brought away special qualifications, entitling him to practise and teach there whenever he cared to return.

On coming back to Padua, laden with the *spolia opima* of foreign schools, he was at once appointed Professor of Surgery in its University. In this chair he more than justified all the expectations that had been formed of him. He was a brilliant operator, full of resource, cautious withal, and specially careful (therein teaching a lesson not quite mastered by his compatriots) in after-treatment. His demeanour in the class room, in the clinical wards, and in the operating theatre made him very popular with his students, expressing as it did a finely balanced

nature, resolute yet mild, self-assured yet modest, just yet genial. Honours fell largely to his share, all of them unsolicited or due to the initiative of friends native or foreign. He was Commander of the Crown of Italy, of the Order of St. Anna of Russia, and of the Pian Order. He was Chevalier of the Order of Francis Joseph I. of Austria, and effective member of numerous scientific and learned bodies in France, Belgium, and other countries, besides being Fellow of the Royal Societies of Venice and Turin.

He lived for surgery in teaching and in practice; and of the ample fortune he realised in its pursuit he left by will the sum of 100,000 fr. for the advancement of clinical surgery in his own school. A splendid funeral attested the admiration and love in which he was held, not only in Padua, but throughout the Italian peninsula, in which his frequent consultation journeys had made him acquainted with nearly every considerable representative of his art. The Minister of Public Instruction, in reply to the telegraphic announcement of his death and of the sums he had bequeathed for university purposes, sent the following message: "Of his devotion to the science and the practice of the profession which conferred on him such high distinction, Tito Vanzetti has on his death-bed given generous proof. I shall not fail to be represented at his funeral."

Steps are being taken to commemorate him suitably in the University of Padua, while a selection from his numerous memoirs and papers on interesting professional topics will, it is understood, be issued under distinguished editorship.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on Jan. 12th, the following degrees were conferred:—

DOCTORS OF MEDICINE.—James Harris Lilley, St. John's; Harry Groom, Magdalene.

BACHELORS OF MEDICINE.—Francis Robert Bryant Bishopp, King's; Humphry Davy Rolleston, St. John's; Robert Humphrey Marten, Caius; Ernest Lloyd Jones, non-collegiate.

BACHELORS OF SURGERY.—Francis Robert Bryant Bishopp, King's; Humphry Davy Rolleston, St. John's; Robert Humphrey Marten, Caius; Ernest Lloyd Jones, non-collegiate.

COLLEGE OF PHYSICIANS IN IRELAND.—At examinations held in December and January, the following gentlemen obtained the licences in Medicine and Midwifery of the College:—

MEDICINE.—William Boake, Thomas Hutchinson Keogh, T. Moore O'Donnell, William McDowel, Aikin Wright.

MIDWIFERY.—William Boake, James Graham Hojel, Thomas Hopkins, Thomas Hutchinson Keogh, Daniel Joseph O'Mahony.

The undermentioned has been admitted a Member:—

Joseph Beatty.

THE annual ball in aid of the funds of the Stratford-on-Avon Hospital was held on the 13th inst., and proved, as in former years, very successful.

MR. MORETON, F.R.C.S. Eng., of Tarvin, whilst out with the Cheshire hounds on the 5th inst., was kicked by another rider's horse, and had his leg broken.

THE annual meeting of the supporters of the Cornwall Trained Nurses' Home was held at Truro on the 11th inst., when satisfactory reports for the past year were presented and adopted.

MR. M. B. NAIRN has offered £3000 to the Town Council of Kirkcaldy for the erection, equipment, and maintenance in perpetuity of a cottage hospital for the town and district.

PRESENTATION.—On the 14th inst. Prince Christian, as High Steward of the Borough of Windsor, presented Sir Henry Simpson, late Mayor of the Borough, with silver plate, value 200 guineas, on behalf of residents in Windsor, in recognition of his services as Mayor last year in connexion with the local celebration of the Queen's Jubilee.

SUFFOCATION OF THE QUEEN'S CORONER.—On the 14th inst. Mr. Langham, coroner for the Duchy of Lancaster, held an inquest at Clapham on the body of Mr. William Thomas Manning, of the Old Farm, New Park Road, Clapham Park, coroner to the Queen's Household, who died on the 10th inst. from suffocation by coal gas. The jury, in accordance with the evidence, returned a verdict of "Accidental death."

ROYAL EAR HOSPITAL.—The seventy-first annual general meeting of the governors and committee of the Royal Ear Hospital, Soho, was held on the 10th inst. During the past year the number of patients—larger than in any former year—was 2654 out-patients and 56 in-patients, giving 8343 attendances. The total expenditure for the year amounted to £722 3*s.* 3*d.*

MANCHESTER MEDICAL SOCIETY.—The following gentlemen have been elected office-bearers for 1888:—President: Dr. Julius Dreschfeld. Vice-Presidents: Drs. Charles James Cullingworth, James Ross, George Arthur Wright, and Alfred Harry Young. Treasurer: Dr. C. Edward Glascott. Secretary: Mr. Frederick Armitage Southam. Elected Members of Committee: Drs. Henry Ambrose Grundy Brooke, Thomas Jones, William N. Maccall, Simeon Holgate Owen, Frederick Morrish Pierce, T. Carleton Railton, Thomas Smith, Graham Steell, John Williams, and William Yeats; Messrs. Frederick Melland and Alfred W. Stocks. Library Committee: Drs. Abraham Matthewson Edge, Abraham Emrys-Jones, Siegmund Moritz, James Ross, and William Yeats. Auditors: Messrs. William Coates and Henry Richmond Hutton.

BEQUESTS.—The late Mr. John Fulton, Edinburgh, has left the following legacies:—To the University of Edinburgh for the General University Fund, the sum of £3000; to the Royal Infirmary of Edinburgh, the sum of £2000; to the Royal Hospital for Sick Children, Edinburgh, the sum of £1000; and to the Infirmary of Kilmarnock the sum of £1000.—By her will Mrs. Hannah Sarah Chadwick, late of Balham, bequeaths on the death of a sister the sum of £26,666 13*s.* 4*d.* to the president, vice-president, treasurer, and governors of the Westminster Hospital, and immediate legacies of £600 to the London Fever Hospital, of £1000 each to the Charing-cross and Middlesex Hospitals, the Hospital for Consumption at Brompton, the Royal Free Hospital, Gray's-inn-road, and the Western Dispensary, Rochester-row.—The late Mr. M'Kenzie has, subject to a life rent, bequeathed £100 to the Greenock Hospital and Dispensary.—The late Miss C. F. Gladstone has by her will requested that £100 be given to the Hospital for Women and Children, Shadwell.

THE COLLEGE OF STATE MEDICINE.—The following gentlemen were elected Associates of the College at the meeting of Council of Jan. 13th, 1888, Sir Joseph Fayrer, K.C.S.I., in the chair:—Charles Adams, M.B., LL.B., Qual. State Med. Dub., Surgeon, I.M.D., Madras; F. W. Alexander, Dip. Pub. Health, R. Colls. Phys. & Surg. Eng., Mile-end Infirmary; Edward A. Birch, M.D., F.R.C.S.I., Cert. Pub. Health, R. Coll. Phys. Edin., Surgeon-Major, I.M.D., Bengal; Laurence Corban, M.D., Dip. San. Sci., R.U. Irel., Surgeon-Major, Medical Staff; Peter Cullen, M.D., Cert. Pub. Health, R. Coll. Phys. Edin., Surgeon-Major, I.M.D., Bengal; Benjamin Evers, D.P.H. Cambridge, Surgeon-Major, I.M.D., Bengal; Patrick Hehir, M.D., D.P.H. Camb., Surgeon, I.M.D., Bengal; T. G. McGann, F.R.C.S.I., D.P.H. Camb., Surgeon-Major, I.M.D., Madras; C. J. McNally, M.D., D.P.H. Camb., Surgeon-Major, I.M.D., Madras; W. J. R. Simpson, M.D., D.P.H. Camb., Medical Officer of Health, Calcutta; S. I. Thompson, D.P.H. Camb., Surgeon, I.M.D., Bengal; F. P. Wightwick, M.B., D.P.H., R. Colls. Phys. & Surg. Eng., St. John's, Horselydown.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting held on the 12th instant, the following list of officers, Council, and Microscopical Committee was adopted:—President: William Carter, M.D., F.R.C.P. Vice-Presidents: R. Robertson, M.D.; William Williams, M.D.; F. J. Bailey, L.R.C.P.; G. E. Walker, F.R.C.S. Hon. Treasurer: J. N. Cregeen, L.R.C.P. Hon. General Secretary: A. Bernard, M.B. Hon. Secretary, Ordinary Meetings: D. Harrisson, M.R.C.S. Hon. Librarian: R. Williams, M.R.C.S. Council: K. A. Grossmann, M.D.; W. Irvine, M.D.; C. G. Lee, M.R.C.S.; W. P. Rowe, L.R.C.P.; W. Whitford, M.D.; R. Eccles, M.D.; J. B. Nevins, M.D.; E. W. Hope, M.D.; E. H. Dickinson, M.D.; W. J. Fleetwood, M.K.Q.C.P.I.; Robert Jones, M.R.C.S.; C. Puzey, M.R.C.S. Microscopical Committee: W. Alexander, F.R.C.S.; A. Barron, M.B.; P. M. Braidwood, M.D.; H. Briggs, F.R.C.S.; G. Gibson Hamilton, F.R.C.S. Ed.; J. S. Hicks, F.R.C.S. Ed.; J. R. Logan, M.B.; Rushton Parker, F.R.C.S.; F. T. Paul, F.R.C.S.; W. Williams, M.D.; J. Wiglesworth, M.D. Auditors: W. Whitford, M.D.; T. H. Bickerton, M.R.C.S.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

SECOND EXAMINATION.—PHYSIOLOGY.

Thursday, Jan. 5th, 1888, from 2 to 5 p. m.

Candidates must answer at least four questions. Candidates unable to answer four questions must report the fact to the presiding examiner, and are not allowed to proceed with their examination.

1. Describe the mucous membrane of the stomach. What are the characters and uses of its secretion? 2. What alterations does the blood undergo in the pulmonic and systemic capillaries? How are these alterations effected? 3. What is meant by inhibition? What are the nerve-mechanisms whereby cardiac inhibition may be brought about directly and indirectly? 4. Describe and explain all the results which follow section of the cervical sympathetic. 5. Name the chief globulins found in the body. By what characters, physical and chemical, are they distinguished from other proteids? 6. What changes take place in a striated muscle as a result of stimulation? How are they demonstrated? [Microscopical appearances of contraction not required.]

Note.—This paper also applies to candidates under the old regulations for the licence of the Royal College of Physicians of London and for the membership of the Royal College of Surgeons of England.

ANATOMY.

Friday, Jan. 6th, 1888, from 2 to 5 p. m.

Candidates must answer at least four questions. Candidates unable to answer four questions must report the fact to the presiding examiner, and are not allowed to proceed with their examination.

1. Mention the muscles which are attached to the coracoid process of the scapula. Give their origins, insertions, nerve supply, and actions. 2. Give the origin, course, and distribution of the following arteries:—(*a*) Lacrymal, (*b*) posterior scapular, (*c*) peroneal. 3. Describe the inferior maxilla, giving the attachments of muscles thereto. 4. Describe the portal vein and its tributaries. (The arrangement of the vein within the liver is not required.) 5. Describe the lateral ligaments of the elbow and ankle joints. 6. Give the course and distribution of the radial nerve.

Note.—This paper also applies to candidates under the old regulations for the licence of the Royal College of Physicians of London and for the membership of the Royal College of Surgeons of England.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BARTON, G. P., L.S.A., has been appointed Senior House-Surgeon to Charing-cross Hospital.

BLAIR, ROBERT, M.D., C.M.Ed., has been appointed Medical Officer for the Goole District and the Workhouse of the Goole Union.

BOOTH, JAMES MACKENZIE, M.A., M.D., C.M.Aber., has been appointed interim Medical Officer of Health for Aberdeen, vice Thomson, resigned.

BUSH, FRANCIS, A. A., L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer for the Harrold District of the Bedford Union.

DENNING, ROBERT NICKLE, M.D. Univ. Dub., L.R.C.S.I., has been reappointed Medical Officer of Health for the Eiland Urban Sanitary District, Yorkshire.

EYLES, CHAS. HY., L.R.C.P. and S.Edin., Assistant Surgeon, Gold Coast Colony, has been appointed Colonial Surgeon, British Honduras, vice Hunter, retired.

GOSSE, W., L.R.C.P.Lond., M.R.C.S., has been appointed Junior House-Surgeon to Charing-cross Hospital.

LARCOMBE, S. S., L.R.C.P.Lond., M.R.C.S., has been appointed Senior House-Physician to Charing-cross Hospital.

LINGWOOD, E. H., L.S.A., has been appointed Resident Obstetrical Officer to Charing-cross Hospital.

MACAW, JAMES, M.D., L.R.C.S.Ed., has been appointed Consulting Sanitary Officer to the Coleraine Board of Guardians, vice Lane, deceased.

MACGREGOR, GEORGE ROBERT, M.D.Univ.Aber., has been appointed Medical Officer of Health for the Wilsden Urban Sanitary District, Yorkshire.

MACRAE, DONALD, M.B., C.M.Ed., has been appointed Medical Officer and Public Vaccinator for the Bow District of the Poplar Union.

ROBINSON, FREDERICK G., M.B.Vict., M.R.C.S., has been appointed Medical Officer for the Broughton District of the Salford Union.

SNAPE, Mr. E. A., has been appointed Junior House-Physician t Charing-cross Hospital.

TAYLOR, A. E., M.B., B.S.Lond., M.R.C.S., has been appointed Senior Surgeon to Out-patients at the Poplar Hospital for Accidents.

TOOGOOD, F. S., M.B.Lond., M.R.C.S., has been appointed Assistant Medical Officer for the Workhouse and Infirmary of the Parish of St. Leonard, Shoreditch.

WILSON, JOHN, L.R.C.P. Ed., L.R.C.S. Ed., has been reappointed Medical Officer of Health for the Pudsey Urban Sanitary District.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon. Salary £90, with board, lodging, and washing, but no wine or beer.

BIRMINGHAM GENERAL HOSPITAL.—Two Assistant House-Surgeons. Residence, board, and washing, but no salary.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Salary £30 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Dental Surgeon.

CHORLTON UNION, Manchester.—Second Assistant to the Resident Medical Officer at the Workhouse Hospitals, Withington. Salary £50 for six months, with furnished apartments and attendance in the workhouse.

FOREST-HILL PROVIDENT DISPENSARY.—Medical Officer.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Medical Registrar and Pathologist. An honorarium of 50 guineas at end of year.

MENSTON ASYLUM, near Leeds.—Medical Superintendent. Salary £400 per annum, with board and furnished residence.

NATIONAL DENTAL HOSPITAL, Great Portland-street, W.—House-Surgeon.—Anæsthetist.

TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Registrar and Chloroformist. Salary £50 per annum, non-resident.

Births, Marriages, and Deaths.

BIRTHS.

CHEYNE.—On the 12th inst., at 59, Welbeck-street, W., the wife of W. Watson Cheyne, F.R.C.S., of a son.

CLARK.—On the 25th ult., at Amritsar, Punjab, the wife of H. Martyn Clark, M.B., C.M. Edin., Medical Missionary of the Church Missionary Society, of a son.

CUFFE.—On the 21st ult., at Jellapahar, Darjeeling, Bengal, the wife of Surgeon-Major C. McD. Cuffe, C.B., Medical Staff, of a son.

MOODIE.—On the 14th inst., at Park Avenue House, Stirling, the wife of Robert Moodie, M.D., B.Sc., of a daughter.

MURPHY.—On the 7th inst., at Belmont, Queenstown, county Cork, the wife of F. H. S. Murphy, M.D., Surgeon, A.M.S., of a daughter.

MARRIAGES.

BULLOCK—GREATHEAD.—On the 11th inst., at St. James's, Westgate-on-Sea, Joseph Ernest Bullock, M.D., to Ada, only daughter of J. J. Greathead, R.N., of Sevenoaks.

GUNN—WINCKWORTH.—On the 11th inst., at the Parish Church, Frindsbury, Rochester, Bassett Charles Edward Fitzgerald Gunn, Surgeon, R.N., to Florence Mary, youngest daughter of the late L. H. Winckworth, Esq., of Reve Court, near Rochester.

JONES—EDWARDS.—On the 11th inst., at Bethel Chapel, Dolgelly, J. Kenrick Jones, L.R.C.P., L.R.C.S., L.F.P.S., of Eirianfa Llanrhaiadr, Oswestry, to Mary, second daughter of the late Mr. Edwards, of Plas-yn-du, Dolgelly, Merionethshire.

SHILLITO—WHOLEY.—On the 5th inst., at Gainsborough, by the Rev. Joseph Shillito, of Sutton Coldfield, Henry Shillito, M.B. Lond., of Mayfield-road, Handsworth, Birmingham, to Elizabeth, youngest daughter of the late Thomas Crosby Wholey, of Gainsborough.

TRUEFITT—SHELLEY.—On the 26th ult., at Agra, India, Surgeon Lewis Haywood Truefitt, Medical Staff, to Sara Helena, daughter of the late S. Shelley, Esq., Riverdale, county Dublin.

WHEELER—WALKINGTON.—On the 12th inst., at St. Thomas's Church, Belfast, T. Kennedy Wheeler, M.D., to Mary Johnston, second daughter of D. B. Walkington, Esq., Thornhill, Malone, Belfast.

DEATHS.

CUNNINGHAM.—On the 9th inst., at his residence, 20, Warriston-crescent, Edinburgh, Lennox Thomson Cunningham, L.R.C.P. Lond., L.R.C.S.Ed., Fleet-Surgeon, R.N. (retired), aged 79.

GIRAUD.—On the 12th inst., at Heathfield, Shanklin, Isle of Wight, Herbert Giraud, M.D., late Deputy Inspector-General H. M. Bombay Army, in his 71st year.

LANE.—On the 11th inst., at his residence, Mount Pleasant, Upper Clapton, W. R. F. Lane, M.R.C.S., L.S.A., late of North-side, Victoria-park-square.

MCDONALD.—On the 14th inst., at Gledstanes-road, West Kensington, Alexander McDonald, M.D., Fleet-Surgeon, R.N., aged 46.

MERRYWEATHER.—On the 11th inst., at Brook-street, W., James Merryweather, M.R.C.S.

PERKINS.—On the 14th inst., at Castletown-road, Richard Henry Perkins, Surgeon-General, Bengal, retired list, aged 64 years.

SAMELSON.—On the 12th inst., at Hôtel Riche-Mont, Cannes, Adolf Samelson, M.D., of St. John's-street, Manchester.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, January 23.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Walsham will exhibit a case of Crispædias and Partial Retroversion after operation.—Mr. Clutton will show a case of Recovery from Chronic Pyæmia.—Mr. Hurry Fenwick will give a Demonstration of the Urethroscope and the Vesicoscope.—Cases also will be shown by Dr. Hadden, Mr. Bernard Pitts, and Mr. Malcolm Morris.

Tuesday, January 24.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.
ROYAL INSTITUTION.—3 P.M. Mr. George John Romanes: Before and after Darwin.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. Wm. H. Bennett: On the occurrence of Tubercular Disease of the Testis as a Local Affection, particularly with reference to the Desirability of Early Castration in certain cases.—Mr. W. J. Walsham: Case of Intra-peritoneal Rupture of the Bladder; abdominal section, suture of the bladder, recovery.

Wednesday, January 25.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-ST.—Operations, 9 A.M.; Saturday, same hour.
SOCIETY FOR THE STUDY OF INEBRIETY.—4 P.M. Dr. Norman Kerr: The Jurisprudence of Inebriety.
HUNTERIAN SOCIETY.—8 P.M. Mr. De Berdt Hovell: The Therapeutic Indications of Neurasthenia contrasted with those of Hysteria.
SOCIETY OF ARTS.—8 P.M. Mr. Walter Emden: Theatres and Fireproof Construction.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Introductory Remarks by the President (Dr. Arthur W. Edis). Specimens will be exhibited by Drs. Granville Bantock, W. Japp Sinclair, R. T. Smith, Mansell Moullin, and others.

Thursday, January 26.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. Hubert Herkomer: My Visits to America.
OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Living and Card Specimens at 8 P.M.:—Mr. Critchett: (1) Small Fixation Forceps for Cataract Extraction; (2) A New Form of v. Graefe's Knife.—Mr. Higgens: Result of Operation by Cautery for Conical Cornea.—Mr. Gunn: Growth of New Lens Fibres after Spontaneous Absorption of Traumatic Cataract. Papers:—Dr. Miles Miley: On the Prognosis as regards Life in Albuminuric Retinitis.—Dr. James Anderson: On Subretinal Effusion in Chronic Nephritis.—Mr. Lang: On a case of Hæmorrhage in the region of the Macula.

Friday, January 27.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
SOCIETY OF ARTS.—8 P.M. Mr. Justice Cunningham: The Public Health in India.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Money and Mr. Paget: A case of so-called Idiopathic Dilatation of the Colon.—Dr. Burney Yeo: A case of Embolism of the Right Axillary Artery connected with Mitral Stenosis; Gangrene of the Forearm, amputation; subsequent Embolic Pleuro-pneumonia and death.—Sir Dyce Duckworth: A case of Tricuspid and Mitral Stenosis in which Physical Signs of Pulmonary Arterial Reflux were present.—Dr. J. K. Fowler: A case of Disease of the Aortic and Mitral Valves of prolonged duration.—Dr. de H. Hall: Large Nævus on the Back (living specimen).
ROYAL INSTITUTION.—9 P.M. Mr. Joseph Thomson: The Exploration of Masái-land.

Saturday, January 28.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. The Right Hon. Lord Rayleigh: Experimental Optics.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, January 19th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Jan. 13	30·67	S.E.	38	37	...	40	37	...	Overcast
,, 14	30·59	E.	34	33	...	38	31	...	Overcast
,, 15	30·60	E.	36	33	...	37	33	...	Overcast
,, 16	30·52	N.E.	34	33	...	36	33	...	Overcast
,, 17	30·54	E.	35	34	...	37	34	...	Overcast
,, 18	30·58	E.	35	33	...	37	31	...	Overcast
,, 19	30·65	E.	37	35	...	37	34	...	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

DUST AND PHOTOGRAPHY.

THE *Photographic News* states that arrangements are being made to photograph the dust-heaps which are to be found in the neighbourhood of Greystoke-place and Norwich-court in the City, with a view to putting pressure upon the officials who are held to be responsible for the delay in removal. The proposal to use photography for making better known local sanitary neglect is one that is likely to stimulate authorities; for it would bring to knowledge more forcibly than would any description by words the conditions which still serve to increase disease and mortality.

C. à C.—The disease is well known as night-blindness (nyctalopia); by some called hemeralopia (day-blindness).

SUPPRESSION OF THE SALIVARY AND BUCCAL SECRETIONS.

To the Editors of THE LANCET.

SIRS,—Within the last few weeks I exhibited before the Clinical Society of London a patient suffering from symptoms similar to those mentioned by Mr. Rowlands in his letter in your issue of Jan. 14th. This condition of what I venture to call "dry mouth" is of very uncommon occurrence, at any rate if one may judge from the scanty reference made to it in medical literature. In my patient, who is a woman of sixty-five, the salivary and buccal secretions are almost entirely arrested, so that the tongue, palate, the inside of the cheeks, and the back of the pharynx are almost devoid of moisture. As I propose to give a detailed account of the case in a paper to be read at the Clinical Society, I shall not say more on the subject, except that some benefit was derived from the administration of the tincture of jaborandi.

I am, Sirs, yours truly,

Welbeck-street, W., Jan. 16th, 1888. W. B. HADDEN.

To the Editors of THE LANCET.

SIRS,—If Mr. William Rowlands will refer to the index of THE LANCET for 1883, he will find that in that year I published a case of complete suppression of saliva after mumps. Though the cases differ considerably, yet it is possible that the treatment, which proved highly successful in my case, might, if persisted in for some time, produce a happy result in Mr. Rowlands's.

There have been but very few such cases put on record, and they are highly interesting. Perhaps Mr. Rowlands will favour us with a further note in the course of time, when the patient has been subjected to treatment.

I am, Sirs, yours truly,

Orchard-street, W., Jan. 14th, 1888. A. ST. C. BUXTON.

ENGLISH PRACTITIONERS IN SWITZERLAND.

BRITISH visitors to Maloja and St. Moritz are in large numbers signing a petition to the British Minister, praying him to obtain the permission of the Federal Government of Switzerland to permit English medical men to continue to practise in that country, so that they may in case of need avail themselves of the medical assistance of doctors of their own nationality.

American.—Our Students' Number, published on September 3rd last. For particulars as to any special case, application should be made to the Secretary of the College.

A. B. C.—1. It is not essential, but is often of great service.—2. Wilson's work, and the lately issued edition of Parkes' book edited by De Chaumont.

Mr. Lange.—A specimen should be sent for examination.

"A CENTENARIAN."

To the Editors of THE LANCET.

SIRS,—You kindly inserted for me a letter in THE LANCET of Dec. 10th last, which called attention to a lady of the extraordinary age of 103 years, who is living in the village of Roxby, in Lincolnshire. The letter was copied from THE LANCET, I believe, into a great number of the newspapers of Great Britain, and even leading articles were written on the subject of it. The interest therefore manifested in the old lady was so great that I am induced to ask you to allow me to mention another fact or two which were communicated by a clergyman of her acquaintance, and which may render her history a little more perfect.

Mrs. Markham is rather small in stature, upright in figure, and active in her movements, and is described by a friend as a "nice, dear old lady." She is admitted by all who are acquainted with her to be an intelligent woman, with a mind well stored with information about persons and things she has met and seen in early life. Mrs. Markham's maiden name was Costin; she was the daughter of William and Mary Costin, of Park-street, St. Albans. Her father was a carrier, and travelled to and from London. Mrs. Markham was born in Park-street, and her relatives are buried in St. Stephen's churchyard "under the yew trees." She remembers the French prisoners of war being confined in the Abbey and breaking out and damaging her father's vines. When about seven years old she saw Queen Charlotte, and was much struck with her figure; upon her prominent bust snuff lay scattered. The Queen wore a straw plaited hat, and Mrs. Markham remembers the coaches, about the same time, coming down from London covered with straw plait, an effort being made to help the straw plait industry. She has in her lifetime celebrated two Royal Jubilees, the first that of George III. and last year that of Queen Victoria. She was employed by Tom Sheridan as a nurse, to look after his family and to travel with his children, who afterwards became such distinguished women. On one occasion she took the children on a visit to the Duke of Argyle, who had apartments in Holyrood Palace. Mr. Sheridan gave her instructions to halt at certain towns on the way, to make arrangements to have the bells rung in his honour when he followed, and to scatter among the people copper money, and to say, "Tom Sheridan is coming." After leaving Mr. Sheridan's employment she studied nursing at the Queen's Lying-in Hospital, and after this, by the recommendation of a Dr. Croft, she went to be foster mother to Mrs. Simpson of Babworth.

Great and remarkable as the preservation of the mental and bodily state of Mrs. Markham is, still I have cognizance of an example nearly as remarkable of a fine, green old age, in a respectable tradesman who lives in a village just over the border, in a neighbouring county. He is not nearly so old as Mrs. Markham, for he is only over fourscore years and ten, but, to speak in the language of the gentleman in whose parish he lives, he is a "spruce young man of ninety years." The man is a tailor by trade, but no person would ever suspect that he belonged to that cramping, deforming trade, for he has a straight, vigorous, and flexible figure, as if he were only forty or fifty years of age. The most wonderful part of this man's history is that he has sat on the board for eighty long years, and still works away the live long day. Who can tell the number and variety of garments that have passed through his hands, and the number of stitches he has put into them, or the miles of broadcloth over which he has pushed the hissing "goose"? There is an interesting fact in connexion with this good man and his life-long labour: he was able to say a few days ago to his clergyman, after hearing a sermon on the observance of the Sabbath, that never in his long life had he broken the Sabbath in his calling, not even as to the threading of a needle.

I am, Sirs, yours truly,
Lincoln, Jan. 9th, 1888. WILLIAM O'NEILL, M.D.

EPSOM COLLEGE.

To the Editors of THE LANCET.

SIRS,—I wish to enter my protest also against the stationery account at present charged by Epsom College. By all means, if the school cannot get on without it, let parents be charged a sufficient sum for the use of school books, stationery, &c. Very few parents wish to purchase them, and they are not a valuable property when a boy has left school. But I do think it altogether beneath the dignity of a school of the status of Epsom College to send in an account of such items as "inkstand 4d., pen 1d., holder 1d.," which appear in an account before me.

I am, Sirs, yours truly,
Jan. 18th, 1888. PARENT AND GOVERNOR.

MEDICAL EVIDENCE OF THE REASONABLE EXCUSE FOR NON-ATTENDANCE AT SCHOOLS.

AT the Bucks Quarter Sessions the Rev. R. H. Pigott has given notice of his intention to move at the next sessions that the poor should be able to obtain a certificate free of cost to excuse their children from attendance. His idea is to substitute a certificate from a magistrate or guardian or clergyman for a medical one, which costs, or should cost, 2s. 6d. Mr. Barkett thought this course would be very dangerous. So we think. Epidemics are costly things; and half-a-crown to a doctor is well spent if it keeps ringworm or scarlet fever out of a school.

M.R.C.S., L.R.C.P.—The sum named is most modest for such services. Five guineas would not be too much. But with this remark we leave the exact charge to our correspondent.

Mr. T. H. Pryce is referred to our advertising columns.

ARMY MEDICAL DUTIES AND ARMY MEDICAL DEATHS.

To the Editors of THE LANCET.

SIRS,—I am surprised that the article which appeared in THE LANCET of Dec. 31st last did not bring about some correspondence on the above subject. Surely, there are many interested in the department who could either confirm or contradict such a statement as this: that it is an "occupation which is killing them [its officers] at a rate at which no other Englishman dies." It was also stated in another medical journal the other day that the mortality was nearly double that of any other class of men who served in Egypt. If some senior officer of the department would frankly let us know the causes of this great mortality, he would be conferring a boon on men who (like myself) are intending to enter the service; for then we should be able to guard against those causes. It seems little better than suicide to enter a service where there is such a frightful mortality without being able in some measure to guard against it; and we cannot guard against it unless we know the causes. It would also be interesting to know why the mortality is greater among army medical officers than among the medical officers of the navy.

I am, Sirs, yours truly,
January 9th, 1888. P. S.

*** The high death-rate of army medical officers compared with civilians is probably due to their service in tropical climates. The difference between that of the army and navy is in all likelihood the result of a greater proportion of the former being employed in unhealthy malarious stations and for a longer time continuously than the naval officers.—ED. L.

Mr. M. Howard.—The clubs have a right, we presume, to require the nature of the disease to be stated, though it is a right that should be used with consideration. The word "amenorrhœa" conveys very little information, and might be avoided by a statement of the underlying condition on which it depends. It depends on or implies a great variety of states of health, and is not necessarily in itself a disease.

C.—We think the examiner might perhaps have been more considerate

ANTIPYRIN IN CHOREA.

To the Editors of THE LANCET.

SIRS,—I beg to add my testimony to the exceedingly great value of antipyrin in chorea. A case now under treatment, which had previously resisted the usual remedies, subsided in three days under the administration of thirty-grain doses of antipyrin, and the patient, a child aged five years, can now stand, walk, and feed herself, whereas three days ago she was utterly unable to stand upon her feet. I administered the antipyrin in consequence of a note in THE LANCET a few weeks back, and I trust that others may be induced to try the remedy.

I am, Sirs, yours faithfully,
Putney, Jan. 12th, 1888. EDWARD F. GRÜN.

MEDICAL OFFICERS OF THE ARMY—COMBATANT OR NON-COMBATANT?

To the Editors of THE LANCET.

SIRS,—In the above discussion, I think (if not mistaken) one very telling fact has been overlooked—viz., that, as non-combatants, the sons of medical officers are deprived of the very undeniable privileges appertaining to honorary Queen's cadetships, inasmuch as "the grant of this boon is exclusively confined to the sons of combatant officers of the army who have obtained field rank." Very "exclusively," I think. "What's in a name?"

I am, Sirs, your obedient servant,
Jan. 9th, 1888. H. D. F.

SUITABILITY OF FLORIDA FOR ASTHMATICS.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you could find space for the following in your journal.

A patient who is liable to occasional attacks of spasmodic asthma, and who is married, with three children, is anxious to learn of the suitability or otherwise of Florida, between degrees 29 and 28, as a place of permanent residence. Can any of your readers inform him?

I am, Sirs, yours truly,
Jan. 15th, 1888. INQUIRENS.

SPANISH MEDICAL JOURNALS.

THE somewhat superfluous number of small Spanish weekly medical journals has just been diminished by one, two of the most important of the Madrid journals having arranged to combine. *El Siglo Médico* now appears with three additional titles—viz., *Boletin de Medicina, Gaceta Médica*, and *Genio Médico-Quirúrgico*, each of which denotes the absorption of some rival journal, the latest addition, *El Genio*, being itself a compound body consisting of at least two pre-existing papers, one of which was specially devoted to hydrology, or information about the different Spanish and foreign mineral waters and watering-places. This element is still retained in the *Siglo*.

Whittaker.—Nicholson's work on the subject is most complete; but Wilson's, if thoroughly worked up, would probably be sufficient for our correspondent's purpose.

Nemo.—The Secretary of the Brussels Medical Graduates' Association, Dr. Pocock, The Limes, St. Mark's-road, South Kensington.

A HOAX.

To the Editors of THE LANCET.

SIRS,—During the forenoon of Friday, Jan. 6th, a respectable-looking woman, styling herself "Mrs. Fergusson," called to engage my professional services for a young lady, the wife of a rich gentleman who had returned from Australia. They were people of simple habits, but lived very comfortably, and being wealthy had taken a house in Holland-road. It was probable chloroform would be required, and an extra fee paid in consequence. She was herself the mother of two children, had paid five guineas, and would also require attendance in March. An appointment was made for 4 o'clock to go into details at the new house. Before leaving the consulting-room mention was made of £1500 having come to one of her little girls, which it was desirable should be settled on the child. Could I recommend a solicitor to be depended on for drawing up a deed? I was induced to write an address on my card. On arrival no such people were known at the residence, nor at the same number in Holland Villas-road. Nothing was stolen from my rooms; but thinking some trick was being played and a thief had called, I wrote at once to my solicitor to caution himself and staff. It was, however, too late, as legal advice had been taken in the meantime under the pretence of obtaining a divorce. It had been averred by the woman that she had been a patient of mine for years, and that I could substantiate the base falsehoods. The plausible tale and introduction given imposed on a kind gentleman, who offered legal opinion and granted a loan of 30*s*. The police have been communicated with; and it is hoped some member of the profession may give the woman in charge.

I am, Sirs, yours truly,

Jan. 10th, 1888. WESTERN SUBURB.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Sturges, London; Dr. Alfred Carpenter, Croydon; Dr. P. F. Van Hamel Roos, Amsterdam; Dr. Lauder Brunton; Mr. Sidebotham, Hyde; Mr. A. Leggatt, London; Dr. Jas. Shaw, Sheerness; Dr. Prosser James, London; Mr. Crookshank, London; Mr. C. E. Cassal; Mr. Pressnell; Mr. Tebbs, Bedford; Mr. Preston, London; Messrs. Kegan Paul and Co., London; Mr. F. A. Southam, Manchester; Messrs. Armfield and Son, London; Mr. Nixon, London; Dr. Spender, Bath; Mr. Lawson Tait, Birmingham; Mr. A. St. C. Buxton, London; Messrs. Bush and Co., London; Dr. J. A. Campbell, Garlands; Mr. Crofts; Dr. Tucker Wise, Maloja; Mr. Eales, Torquay; Surg.-Gen. Cornish; Dr. John Homans, Boston, U.S.A.; Mr. H. Fenwick, London; Dr. Handford, Nottingham; Dr. Hadden, London; Mr. N. W. Meadows, London; Mr. Browne, London; Dr. Ideson; Dr. Hosegood; Mr. Wm. Grove, Tamworth; Mr. Vickers, London; Mr. Tomkins, Leicester; Mr. R. Maynard, Warminster; Mr. J. Montagu, Brussels; Mr. Whitcombe, Birmingham; Mr. Monckton, Rugely; Dr. Jennings, Paris; Drs. Pryce and Whitelegge, Nottingham; Dr. Paramore, London; Mr. E. M. Wilson, Chatham; Mr. F. Bennett, Leicester; Mr. W. T. Thomas, Liverpool; Mr. L. Humphry, Cambridge; Mr. G. P. Atkinson, Pontefract; Mr. J. A. Bloxam, London; Mr. H. N. Laurance, London; Mr. Barraud, London; Mr. R. J. Stephens; Dr. T. Oliver, Newcastle-on-Tyne; Dr. G. S. Scott, Bury; Dr. J. Oliver, London; Dr. Tatham, Salford; Mr. E. Bast, London; Mr. Frost; Mr. Stevens; Dr. Finch, Manchester; Dr. McMordie, Belfast; Mr. Campbell; Messrs. Allen and Hanburys, London; Mr. Daglish, Jarrow; Messrs. Maythorn and Co., Biggleswade; Mr. Roth, London; Dr. Blomfield, Acton; Mr. Evans, Chippenham; Dr. Benthall, Southsea; Mr. Fuge, Taunton; Mr. Blount, Paris; Mr. Cooke, London; Mr. Brown, Wigan; Messrs. Woodhouse, Chorlton-upon-Matlock; Mr. Mundy, London; Messrs. Scott, Newcastle-on-Tyne; Mr. Keetley; Mr. Adkins; Messrs. Robertson and Scott; Mr. Vincent; Dr. Popham; Mr. Ruhn; Dr. Dinsmore, Pontypool; Mr. Birchall, Liverpool; Mr. Guest, Manchester; Mr. Leary, Taunton; Mr. Kirkley; Dr. R. J. Lee, London; Mr. V. Jackson, Wolverhampton; A. Simeke, Bělš, Bohemia; Veritas, London; W.; Inquirens; A. B. C.; M.A., Cambridge; The Maltine Manufacturing Co., London; E. E. P.; The "Sanitas" Co., London; Birkenhead Borough Hospital; Bristol Hospital; Parent and Governor; Lady Superintendent, School of Massage.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Williams, Sheffield; Mr. Davis, Talke-on-the-Hill; Mr. Brown, Wigan; Mr. G. Gordon, Poplar; Dr. Molteno, Milan; Dr. Powell; Mr. Nicholls, Bury St. Edmunds; Dr. Malaguzzi, Brescia; Mr. Jones, Derby; Mr. G. A. Povah, Warsaw; Mr. Westwood, Stratton; Dr. Roberts; Mr. Earlam, Bromley; Dr. Kirkland, Slough; Mr. Rale, Worthing; Mr. Whitley, Halifax; Rev. A. D'Orsey; Mr. Stenhouse, Glasgow; Mr. Henderson, London; Mr. White, Bayswater; Dr. Harkin, Belfast; Mr. Foster, Knowle; Miss Crafts, Shanklin; Mr. Mainwaring, London; Dr. Parry Jones, Wrexham; Dr. Harley; Mr. Wormald, Manchester; Mr. Kemp, Castleford; Mr. Heywood, Manchester; Mr. Hine; Messrs. Mason and Co.; Dr. Hutchinson, Bridlington; Dr. Taylor; Messrs. Liberty and Co., London; Mr. Arnold, Porthleven; Mr. Lewis; Messrs. Spong and Co.; Dr. Barnett, Kennington; Messrs. Byrt; Mr. Marshall, Manchester; Mr. Langley; Mr. Oswald, Clapham; Mr. D'Orsey, London; Dr. Warters, Alfreton; Mr. Dane, Hampstead; Mr. Soper, Dartmouth; Mr. Pentland, Edinburgh; Miss Carson, Burton-on-Trent; Miss Manley, Croydon; Mr. Hughes, Festiniog; H. M.; Dr.; Matron, Royal Infirmary, Windsor; Chemicus, Dulwich; Deaconess Townson, Chester; Gringo, London; Ivelhouse, Somerset; Glasgow Apothecaries' Company; No. 19, Church-street, Ellesmere; Hereford General Infirmary; X. Y. Z., London; The Geddes Manufacturing Company, London; R. O. L., London; M.D., Manchester; Medicus, Preston; J. F., Derby; H., Manchester; N. B., London; Medicus, Ashton; W. S., London; Rex, London; C., Kensington; X. A. B., Highbury; M.D., Bradford; N. B., Swarkestone; H. D.; A. N.; C., Kensington; Vagus, Forest-gate; F. L. S.

Sheffield Daily Telegraph, Thames Valley Times, Denton Examiner, The Reflector, Blackburn Standard, Shetland News, Piccadilly, &c., have been received.

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Agent for the Advertising Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

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